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ITEA 3 is a EUREKA strategic ICT cluster programme

Exploitable Results by Third Parties

15025 Flex4Apps

Project details

Project leader:	Till Witt
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Website:	www.nxp.com

Name: secure OS platform for network appliances		
Input(s):	Main feature(s)	Output(s):
▪ NXP i.MX 6 ▪ Genode OS	▪ Secure connection to the cloud ▪ Secure operating base for IoT devices	▪ Secured data interception, filtering, and transformation on industrial level hardware

Unique Selling Proposition(s):	▪ Secure outdated or unsecure devices along the production cycle ▪ Have a pluggable solution when F4A monitoring detects a security risk ▪ Full Java application stack for implementing business logic
Integration constraint(s):	▪ Solution should have two network interfaces or other means to be wired to the i.MX ▪ SD-card interface ▪ Board must be supported by the Genode OS Framework ▪ OpenJDK version 9
Intended user(s):	▪ Technical user aware of security needs ▪ Network appliance vendors in need of protecting existing products ▪ Industrial customer who seeks secure basis for B2C or B2B platform
Provider:	▪ Genode Labs GmbH https://www.genode-labs.com
Contact point:	▪ Dr.-Ing. Norman Feske info@genode-labs.com
Condition(s) for reuse:	▪ License agreements must be met Open-source and commercial licensing provided by Genode Labs ▪ Hardware must be purchased ▪ Reference to F4A would be appreciated
	Latest update: 2019-05-21

Name: EdgeVerse		
Input(s):	Main feature(s)	Output(s):
▪ NXP portfolio of industrial, IoT, and automotive embedded processors, security, enhanced short-range connectivity solutions	▪ building blocks for high-performance and energy-efficient compute	▪ A comprehensive Edge Computing and Security Platform
Unique Selling Proposition(s):	▪ Edge computing is a distributed computing paradigm, which brings critical information analysis and knowledge storage closer to the location where it is needed. ▪ With the growing number of Internet-of-Things (IoT), connected automotive and industrial applications; latency, privacy, and bandwidth become critical limiting factors and edge computing solves this by bringing the intelligence closer to the source.	
Integration constraint(s):	▪ Depends on use case	
Intended user(s):	▪ Depends on use case	
Provider:	▪ NXP Semiconductors	
Contact point:	▪ https://www.nxp.com/EdgeVerse ▪ https://media.nxp.com/news-releases/news-release-details/nxp-premieres-edgeverse-platform-brand-support-its-fast-growing	
Condition(s) for reuse:	▪ Commercial discussion required	
	Latest update: 2019-06-11	

Name: securing docker registry via NXP SE		
Input(s):	Main feature(s)	Output(s):
▪ NXP SE (various options possible SEx, Px) ▪ NXP Paper on SE integration into Docker registry	▪ Securing the docker image signing process with a security token	▪ Securely signed images allowing trustful execution
Unique Selling Proposition(s):	▪ The current version of Docker image signing would allow a duplication attack which can be avoided by integrating a SE into the process	
Integration constraint(s):	▪ In depth Docker knowledge ▪ In depth SE knowledge	
Intended user(s):	▪ Technical experts	
Provider:	▪ NXP Semiconductors Germany GmbH	
Contact point:	▪ Till.witt@nxp.com	
Condition(s) for reuse:	▪ Open to discussion	
	Latest update: 2019-06-11	

Name: docker based service deployment		
Input(s):	Main feature(s)	Output(s):
▪ F4A github repository	▪ Full cycle demonstrator on software deployment with docker images	▪ A working development environment within a few minutes
Unique Selling Proposition(s):	▪ replicable cloud environment, vendor agnostic	
Integration constraint(s):	▪ Docker knowledge ▪ Revision of current version requirements	
Intended user(s):	▪ Technical experts	
Provider:	▪ NXP Semiconductors Germany GmbH / Flex4Apps consortium	
Contact point:	▪ Any of the F4A project partners mentioned at: https://f4a.rtfd.io/en/latest/chapter08_serviceSolutionProviders/_structure.html	
Condition(s) for reuse:	▪ Open to discussion	
	Latest update: 2019-06-11	

Name: Toolbox for Home Automation Systems		
Input(s):	Main feature(s)	Output(s):
Measured values from various home automation IoT systems	Full software stack for data transfer, monitoring and connection to a third-party platform	all measured values will be shown at any third-party platform
Unique Selling Proposition(s):	• Platform based on this toolbox can be set up quickly and scaled easily • vendor agnostic (most home automation systems can be connected) • own data do not have to be outsourced to a platform operator • anomalies for data transfer can be found • any third-party platform can be integrated	
Integration constraint(s):	▪ At least one home automation system as input is needed. ▪ Software stack provided by Flex4Apps project must be deployed.	
Intended user(s):	▪ Technical experts	
Provider:	▪ Evermind GmbH	
Contact point:	tg@evermind.de	
Condition(s) for reuse:	• most licenses are free to use, X-Pack must be purchased • Hardware must be purchased • Reference to F4A would be appreciated	
	Latest update: 06/03/2019	

Name: MOSQUITTO integration and adaptation to extend new or existing IoT-Networks with Anomaly detection and/or machine learning features		
Input(s):	Main feature(s)	Output(s):
▪ MQTT-Messages from Publishers according to MQTT standard ▪ SSL Connection establishment to publishers and subscribers	▪ Implements a structured Log-Method to MQTT-Networks ▪ Allows to trace connect/disconnect activities in MQTT systems ▪ Adds a history to MQTT networks ▪ Provides a link to cloud based Log-storage and machine learning algorithms	▪ MQTT-Messages to subscribers according to MQTT standard ▪ Log-Information to be sent to Elasticsearch (or other logging utilities)
Unique Selling Proposition(s):	▪ No or minimal additional workload for MQTT-Broker ▪ No re-configuration of existing networks ▪ Adaptable to individual needs ▪ Plug-In replacement of existing, MOSQUITTO based Brokers	
Integration constraint(s):	▪ Server or Gateway must be able to run Mosquitto software ▪ Log data shall be sent to an entity that can store and display it in a feasible way	
Intended user(s):	▪ System designers who want to install or enhance MQTT based IoT networks ▪ Consumers who want to gain a deeper insight into their existing networks ▪ Administrators who are forced to log MQTT network traffic	
Provider:	▪ www.HiConnect.de / mosquitto.org / Flex4Apps consortium	
Contact point:	▪ G.Schmalfuss@HiConnect.de	
Condition(s) for reuse:	▪ Licence agreements for using MOSQUITTO and related installations must be met ▪ Server or stand-alone IPC system to run MOSQUITTO Broker ▪ Network connectivity to publishers, subscribers and log-entity	
	Latest update: 2019-06-11	

Name: Flex4Apps @ Inventive Designers		
Input(s):	Main feature(s)	Output(s):
Internal Data inside software as well as data on dependencies or environment in which it lives	Hybrid Software Usage Analytics for Product Managers	Statistics, Reports
Unique Selling Proposition(s):	Provide Product managers with the tools that gather, aggregate and analyze usage data across the entire software stack; that only Google and Netflix can afford for a very low operational cost; and present the data for product managers and stakeholders to make informed decisions creating and evolving the best products the customers need.	
Integration constraint(s):	Internally used in Scriptura Engage and Xribe ISV products and Cloud services, not available for public reuse • REST APIs, In House Java 8 based Stack and In House Node.js 8+ Stack clients • Amazon Web Services • Inventive Designers OAuth2 Security Services Generalized Architecture is available in the open source github repository	
Intended user(s):	Primary Internal Product Managers and stakeholders - Secondary usage by Customer Support, Administrations, ...	
Provider:	Inventive Designers. Proprietary source code embedded inside existing product stacks.	
Contact point:	erik.vanherk@inventivegroup.com	
Condition(s) for reuse:	Internal Use only, not licenseable. Generalized Architecture is available in the open source github repository	
	Latest update: 2019-06-11	

Name: LogAno Log Templater		
Input(s):	Main feature(s)	Output(s):
▪ Unstructured log files ▪ Optional: Domain knowledge on log files	▪ Unstructured log files in any format can be converted to structured log files, ready for analysis in log aggregators such as Elasticsearch ▪ Templates are available at any time (online creation) and improved with growing number of input logs ▪ Includes a set of common parameter filters (IP addresses, etc.), custom filters can be added ▪ Works out of the box, but can be customized if desired (filters, delimiters, aggressiveness of parameter detection)	▪ Log templates (as input for Anomaly Detector) ▪ Structured log files (in JSON or similar format)
Unique Selling Proposition(s):	▪ Flexible: arbitrary log formats can be processed ▪ Customizable: all Templater components can be customized according to the requirements of the specific use case ▪ Fast: efficient C++ codebase	
Integration constraint(s):	▪ C++ codebase with very few dependencies works under Windows and Linux, online and offline	
Intended user(s):	▪ System administrators ▪ Analysts interested in insights gained from log files	
Provider:	▪ Fraunhofer SCAI	
Contact point:	▪ jochen.garcke@scai.fraunhofer.de	
Condition(s) for reuse:	▪ Commercial licence to be negotiated; a free licence can be provided within a research partnership ▪ Possibility of open-sourcing is being explored	

Name: LogAno Anomaly Detector		
Input(s):	Main feature(s)	Output(s):
▪ Anomaly-free training log file ▪ Log file to check for anomalies	▪ Detects anomalies in unstructured log files with arbitrary format (in combination with Log Templater) ▪ Filters log files for previously unseen events	▪ Anomaly score per line, file, time interval

Unique Selling Proposition(s):	▪ Works with unstructured log files of any format
Integration constraint(s):	▪ C++ codebase with very few dependencies works under Windows and Linux, online and offline
Intended user(s):	▪ System administrators ▪ Software developers ▪ Analysts interested in insights gained from log files
Provider:	▪ Fraunhofer SCAI
Contact point:	▪ jochen.garcke@scai.fraunhofer.de
Condition(s) for reuse:	▪ Commercial licence to be negotiated; a free licence can be provided within a research partnership

Name: Logfile Browser		
Input(s):	Main feature(s)	Output(s):
▪ Logfile(s) stored in Elasticsearch database	▪ Online aggregation and browser-based display of logfiles from different inputs, filtering by different criteria not found in other tools (e.g. software feature, software build date etc.), and visualization for analysis purposes.	▪ View of filtered log files, suited for visual analysis
Unique Selling Proposition(s):	▪ Reduces number of log trace lines in view from millions to a few hundred by filtering, making visual logfile analysis a doable task ▪ Very quick setup, easy integration (front-end runs in web browser) ▪ Vendor agnostic ▪ No need to transfer proprietary data to external servers	
Integration constraint(s):	▪ Control over software development environment needed ▪ Flex4Apps SW stack should be deployed as Logfile Browser is dependent on Elasticsearch database	
Intended user(s):	▪ Software Developers ▪ System Integrators ▪ Software Verification Engineers	
Provider:	▪ Nokia Solutions and Networks GmbH & Co. KG	
Contact point:	▪ ralph.schlenk@nokia.com	
Condition(s) for reuse:	▪ Commercial licence to be negotiated	
	Latest update: 2019-06-06	

Name: LabSense Temperature Analytics		
Input(s):	Main feature(s)	Output(s):
▪ Temperature data from sensors (via MQTT server or via logfiles) ▪ Possibility to use low cost LabSense sensors instead of commercial ones	▪ Multi-sensor array solution for temperature data acquisition coupled with graphical monitoring/analytics software tools.	▪ Visual analysis (e.g. heatmap) of temperature distribution in devices and in lab/datacenter environment
Unique Selling Proposition(s):	▪ Low-cost solution for measuring temperatures and to gain insight into heat distribution over time ▪ Retrieve sensor readings from various locations integrated into monitoring and analytics framework ▪ Blueprint for low-cost hardware solution available: ○ Maintenance friendly (no batteries) ○ Reliable (no ISM @ 433MHz) ○ Small boards: Easy to deploy ○ Cheap hardware: Sensor array terminator 45 EUR, temperature sensor boards <8 EUR	
Integration constraint(s):	▪ Flex4Apps SW stack should be deployed if Elasticsearch/Kibana is to be used as database/analytics solution	
Intended user(s):	▪ Hardware Developers ▪ Lab Owners ▪ Facility Managers	
Provider:	▪ Nokia Solutions and Networks GmbH & Co. KG	
Contact point:	▪ ralph.schlenk@nokia.com	
Condition(s) for reuse:	▪ Commercial licence to be negotiated	
	Latest update: 2019-06-06	

Name: HyperScale – MicroCare – The digital business cook book		
Input(s):	Main feature(s)	Output(s):
▪ Questions about success factors for digital services	▪ Book provides insights and guidance for business leaders that want to explore digital services	▪ book
Unique Selling Proposition(s):	▪ Comprehensive guide and cook book for digital business owners	
Integration constraint(s):	▪	
Intended user(s):	▪ Business leaders, startup founders	
Provider:	▪ Sirris	
Contact point:	▪ Nick.boucart@sirris.be	
Condition(s) for reuse:	Standard copyright applies. Book can be purchased at https://www.diekeure.be/nl-be/professional/9127/hyperscale-microcare	

Name: Serverless Analytics Pipeline		
Input(s):	Main feature(s)	Output(s):
▪ POST of events through a JSON REST API	▪ Serverless Analytics backend, auto-scalable and extensible. ▪ Elasticsearch and kibana dashboards for quick and easy dashboarding and querying ▪ JSON data stored in S3 as a source for deeper analysis using AWS Sagemaker or other tools ▪ Single command deploy	▪ Source code + installation scripts based upon serverless.com and cloudformation
Unique Selling Proposition(s):	▪ Example analytics backend, serverless, with low TCO	
Integration constraint(s):	▪ Only works on AWS	
Intended user(s):	▪ Product Managers, CTO's	
Provider:	▪ Sirris	
Contact point:	▪ Nick.boucart@sirris.be	
Condition(s) for reuse:	Freely available as a starting point for own analytics applications. Released under MIT license.	

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Unique Selling Proposition(s):	▪ Example analytics backend, serverless, with low TCO	
Integration constraint(s):	▪ AWS only	
Intended user(s):	▪ Product Managers, CTO's	
Provider:	▪ Sirris	
Contact point:	▪ nick.boucart@sirris.be	
Condition(s) for reuse:	Freely available as a starting point for own analytics applications. Released under MIT license. https://github.com/Flex4Apps/serverless-analytics	

Name: Grafana dashboaring example		
Input(s):	Main feature(s)	Output(s):
▪	▪ Example scripts for deploying in a secure way Grafana + postgres db ▪ Grafana: open source dashboarding ▪ Stack setups up VPC, bastion, postgres and Grafana container that is managed by AWS Fargate	▪ Source code + installation scripts based upon cloudformation
Unique Selling Proposition(s):	▪ Example analytics dashboarding	
Integration constraint(s):	▪ AWS only	
Intended user(s):	▪ Product Managers, CTO's	
Provider:	▪ Sirris	
Contact point:	▪ nick.boucart@sirris.be	
Condition(s) for reuse:	Freely available as a starting point for own analytics applications. https://github.com/Flex4Apps/grafana-fargate-vpc	

Name: DataStories Augmented Analytics Platform		
Input(s):	Main feature(s)	Output(s):
▪ Structured data from various business sources ○ user event data ○ marketing data ○ sales data ○ manufacturing data ○ other product related data	▪ easy and automated analysis workflow ▪ automated model generation and actionable what-if scenarios ▪ turns the data into interactive data stories, ready to interpret, act on, communicate and share.	▪ Models predicting KPIs like ○ user scoring ○ forecasting demand ○ product yield and quality related kpis ○ churn ▪ interactive reports that give actionable insights
Unique Selling Proposition(s):	▪ Select the most important drivers out of potential thousands of variables/events of unknown significance ▪ Find out what settings to change to get optimum KPIs ▪ Discover what are the exceptions to the rule	
Integration constraint(s):	▪ DataStories Platform and SDK requires data to be already structured so it is suitable for prediction, an integration step can be required to connect to your data sources.	
Intended user(s):	▪ Business experts, scientists and engineers (who do not need to have a background in data science) ▪ Data scientists (for the SDK) ▪ Data engineers, IT admins and integrators (SDK and API)	
Provider:	▪ DataStories International NV https://datastories.com	
Contact point:	▪ info@datastories.com	
Condition(s) for reuse:	▪ Software and SDK license is available, pricing is on an annual basis. ▪ License agreements must be met	