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OUR MISSION

Altworx is a tool for the perpetual real-time monitoring of systems and processes. The following goals have been taken into consideration:

- To identify the important events in the big volume of fast coming input data. The events are announced to the users in the context of their business role.
- Business processes are spread among subsidiaries and departments. Different steps of the process are processed in different applications. These applications often do not communicate with each other. The monitoring must follow the footprints of the processes in each involved

application and system.

- people involved in the process have limited communication with each other and don't fully understand the people and applications in different departments. They need a tool which speaks the same language about the process and shows them their place in the process.
- place the implementation of Altworx into the hands of the users, Altworx speaks to the user/administrator to understand the terms the user uses in his business and is familiar with. Users do not need data scientists to set up and run Altworx.
- process each single data input and support full traceability of every step involved in the input processing, the results of processing are sent to the users in accordance with their responsibility/business role in the process through various communication channels.
- support escalations and workflows when events require a special treatment, traceability and the ability to define scenarios of reaction, support data governance. Data Governance is the creation and implementation of policies, procedures, roles and responsibilities and escalation processes which outline and enforce accountabilities for effective management and control of information critical to the enterprise (People / Processes / Technology).
- give the users an understandable user interface(s) which display the processes and all the data regarding them.

Altworx Method

Altworx contains the model of the monitored system. The model is a network of communicating components. The components represent parts of the modeled system. The components are familiar terms to the user, for example workorder, hvac unit, sensitive stock, etc.

The administrator creates the model from prepared building blocks according to the real system. He sets the parameters of the components. He also

defines relationships (data paths) among them. The model displays how the system works in an understandable way.

During run time, the model accepts inputs from the real world. The inputs change the statuses of the components. If new status of the component differs from the status required by the model, Altworx sends messages to the users involved in the process.

The model runs in the Erlang runtime environment. The Programming model of Erlang enables us to run the model as a network of communicating processes, which is exactly one to one to the network of the business components.

Each component keeps its status in runtime. This means there is no need to calculate the statuses again and again whenever they are needed which is common for today's big data technologies.

The model reacts to every single data input in real time. This is another difference between Altworx and common big data systems. They rather simulate real time processing by fast repetition of batch processing (for example Spark). The reaction to the single input causes the wave of processing which changes the status of the model and generates messages for the users. Big data systems do not care about single inputs. Their results rather come from volume and statistics.