

# CONTEXTUAL INFERENCE OVER IOT NODES - UNITE



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## GOALS

- Support the knowledge management of nodes participating in a wireless network
- Identify events related to the network performance violations
- Handle the uncertainty in quality of service violation events
- If low performance is observed, instruct nodes to update their behaviour towards increasing the performance of the network

## CHALLENGES

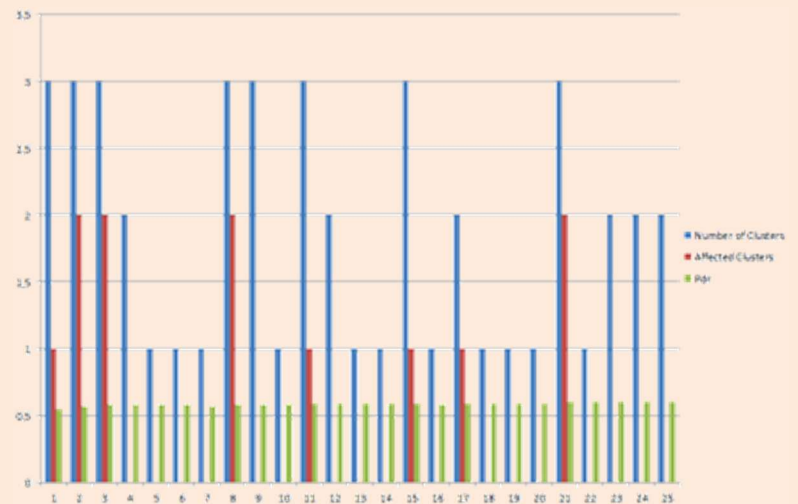
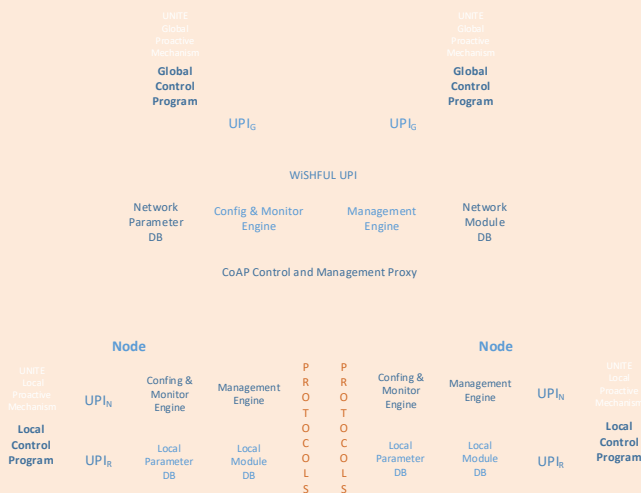
- Identify quality of service violations locally and globally
- Collect, process and forecast future trends of network performance
- Perform statistical inference over the unknown distribution of the performance metrics
- Perform uncertainty management for events identification
- Perform inference for the management of groups of nodes

## DESCRIPTION

- UNITE modules are placed in the local and the global control programs
- UNITE monitors the performance of the network and reacts in quality of service violation events

## RESULTS

- The set of the identified clusters in the network (blue colour) and the clusters that should update their configuration (red color)



## CONCLUSIONS

- The envisioned technologies were smoothly integrated in the WiSHFUL platform
- The UNITE project revealed the potential of the adopted technologies in the WiSHFUL platform
- WiSHFUL nodes successfully managed the network performance measurements and executed the envisioned algorithms

## FEEDBACK

- The provided WiSHFUL tools offer the necessary functionality that facilitates experimenters
- The provided testbed was appropriate for experimentation
- Thanks to the software tools and hardware provided to us by WiSHFUL, we were able to easily incorporate our code and secure high quality of service into a network of nodes