

# Providing Real-time Operational and Situational Awareness for IoT Systems

*Vortex Insight provides users with operational and situational awareness through the development, provisioning and deployment of a Vortex-based system. Vortex Insight enables monitoring and supervision of Vortex applications whether running on a Local Area Network (LAN) or deployed in the Cloud.*

## Overview

Vortex Insight is a web-based tool that can be used to monitor and manage a Vortex-based system from any location and on any device. It provides views of a Vortex system including statistics associated with DDS entities and system elements active in a live environment. It also provides configurable dashboards for monitoring system behavior through graphs and charts of statistics, including resource usage. Vortex Insight allows users to control the configuration and the QoS of Vortex applications, services and systems.



## Key Features

Vortex Insight includes a number of different tools that provide logical, physical and data-centric views of the system. Each tool is described below.

**Domain Browser** – provides an overall logical view of the domain. This is including information on nodes in the domain (virtual or physical machines), services running on each node, applications running on each node, participants, publishers and subscribers, readers and writers. The Domain Browser can be used to display in real-time changes to the system, including entities being created or disposed, facilitating continuous monitoring and visibility of the system. The Domain Browser provides summary information and aggregated statistics for each application such as the total number of subscribed and published topics, plus the number of readers and writers. Users can drill down to reveal live statistics on individual entities such as a reader or writer. The Domain Browser can also be used to display information on the QoS Policy settings for each participant, publisher or subscriber, reader or writer in the system.

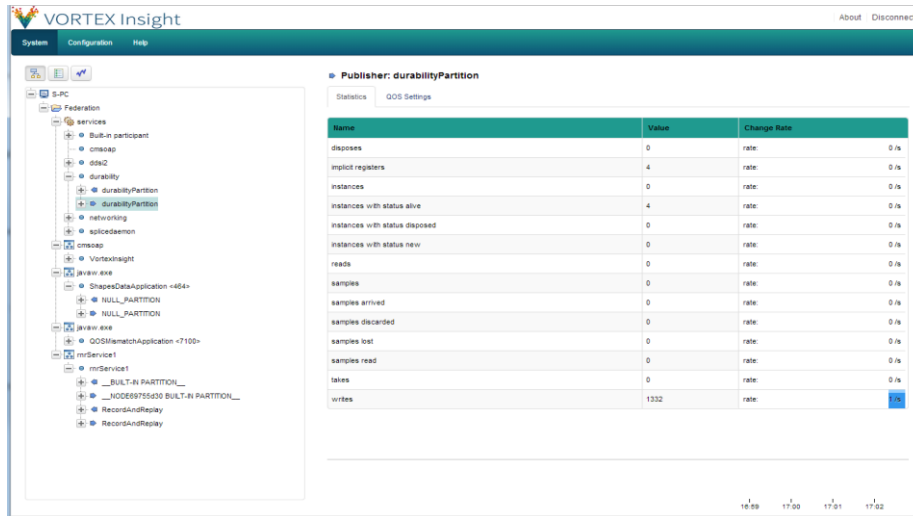


Figure 1 - Domain Browser

A **Node Monitor** is also provided as part of the Domain Browser and enables the monitoring of information and statistics of a node's resources and applications present in the domain.

For nodes this includes:

- CPU information
- Operating System information Network information
- Network Interface information
- CPU statistics
- Memory statistics
- Network Interface statistics

For applications this includes:

- Process information
- Process memory statistics
- Process CPU statistics

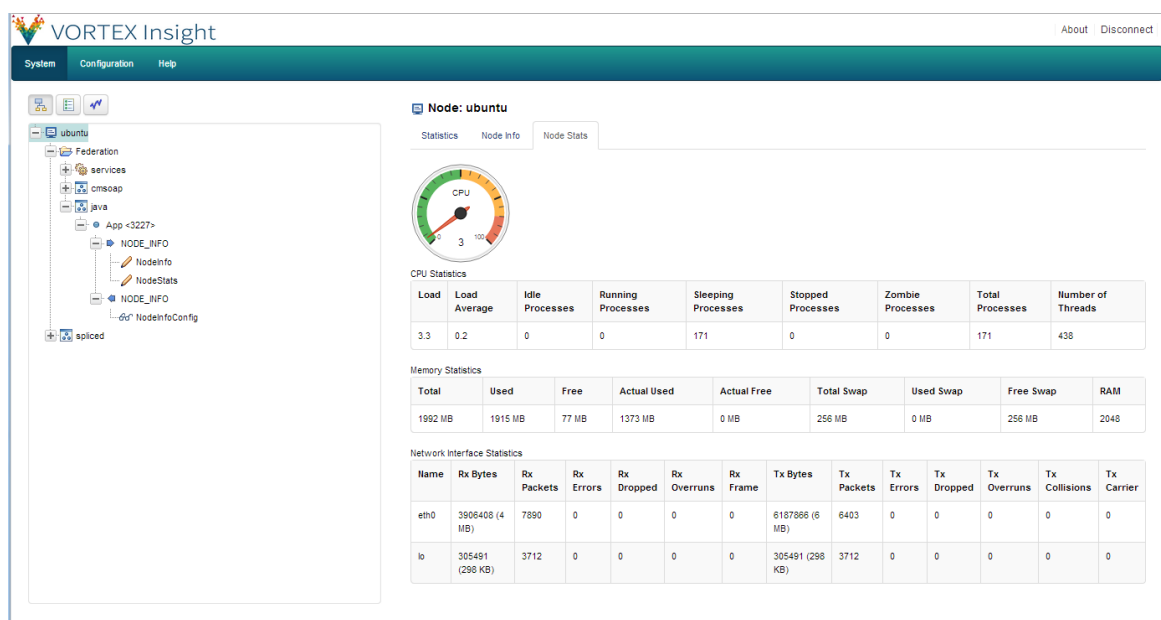


Figure 2 - Node Monitor

**Topic Browser** – provides a data-centric view of topics registered in the system. It shows information for each topic such as QoS Policy settings. The Topic Browser also includes a QoS Compatibility graph for topic, reader and writer entities. It enables users to easily identify incorrectly configured quality of services settings.

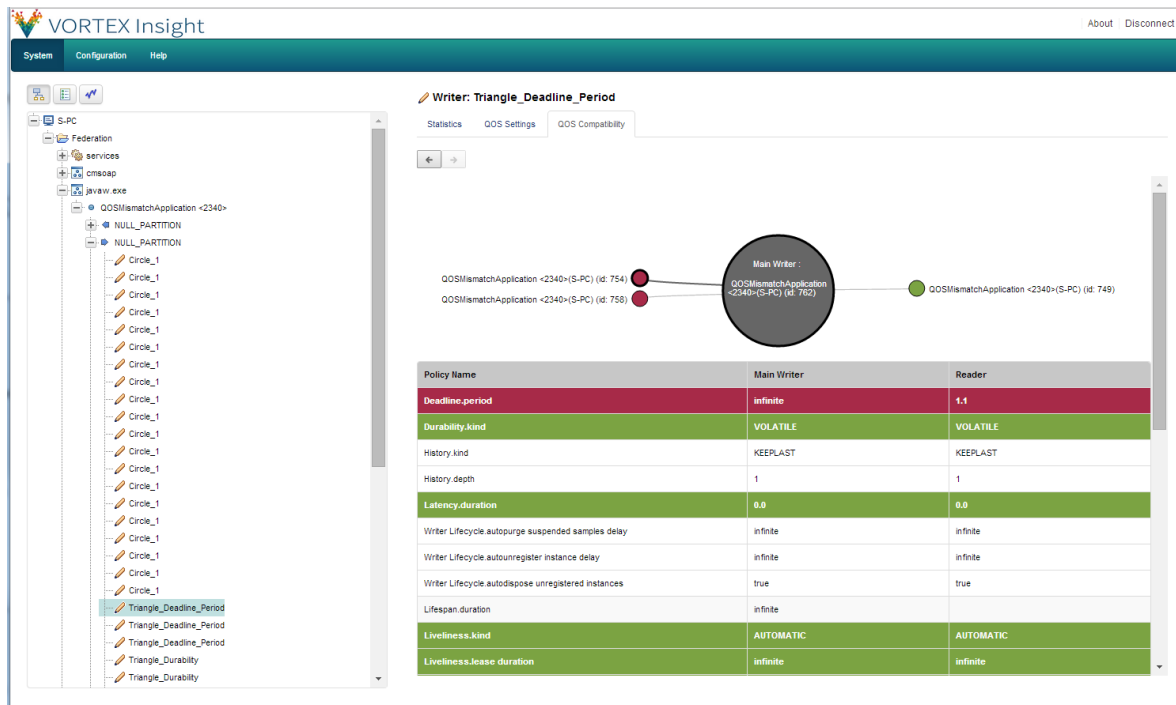


Figure 3 – Topic Browser – QoS Settings

**Monitor** – provides threshold based traffic monitoring for topics and participants. It enables users to easily set a threshold, by specifying a threshold type (e.g. writes per topic), threshold value (e.g. 6000 writes), threshold interval (e.g. 60 seconds) which defines the time interval over which the number of writes is calculated and finally the sampling rate (e.g. 1 second) which defines the frequency at which monitored statistics are updated. A threshold timeline graph displays the amount of traffic at each interval for a topic or a participant. From the graph a user can easily identify if a threshold has been exceeded and drill down further into the graph to determine which entities (e.g. writers) have contributed to traffic threshold being exceeded.

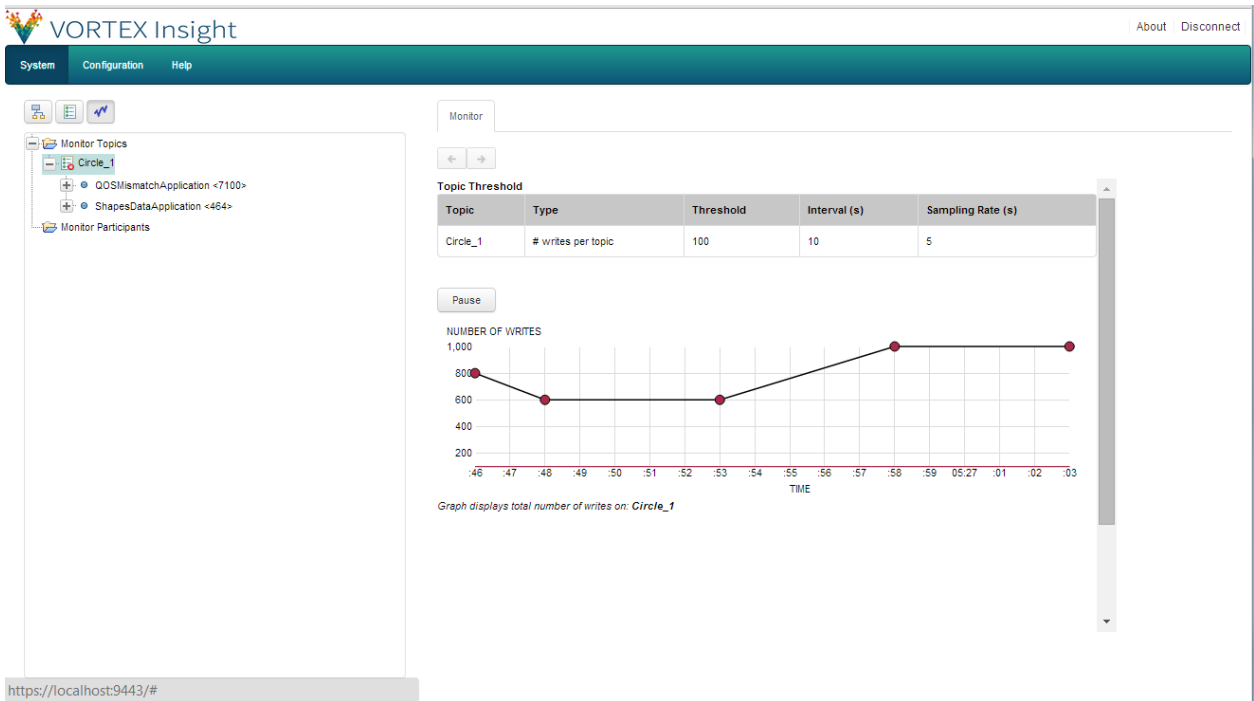


Figure 4 – Monitor Tool

## Complementary Technologies

Vortex Insight provides monitoring and management of the Vortex Intelligent Data Sharing platform, an advanced suite of complementary interoperable technologies that enable business critical and industrial IoT systems. The Vortex platform consists of Vortex Lite for embedded IoT devices, Vortex Café for mobile phones and tablets, Vortex Cloud for cloud services and internet wide data sharing, Vortex Web for browsers, Vortex OpenSplice for enterprise servers and Vortex Gateway for integration with third party network technologies.

In addition to Vortex Insight, the Vortex platform includes a complete set of tools to support system development, testing and deployment. The Vortex tool suite includes tools for configuring, testing, optimizing, monitoring and recording/replay of system behavior. The Vortex platform provides a rich and open API for integration with other IoT application development technologies, such as IDEs, Java EE application servers, M2M platforms and analytics engines. It thus helps system integrators, OEMs, device vendors and cloud service providers deliver high-performance IoT system solutions for many vertical markets, including smart cities and urban environments, smart grid and energy, transportation, healthcare, IT & networks, and industrial automation.

## Summary of Vortex Insight Benefits

Vortex Insight provides users with a range of benefits, including:

- Monitor and manage a system from any location and on any device (with appropriate web browser support)
- Monitor non functional properties of the system in order to optimize its performance
- Real-time operational intelligence and visibility in a deployed system through detailed statistics and alerts
- Reduce the time to identify the cause of problems in both a system under development or a deployed system
- Reduce the need to send technical support engineers on site to identify problems in a deployed system
- Open architecture tooling framework and with documented REST API enables users to create custom supervisory tools and applications
- Thin client Web-based GUI tool that runs on leading web browsers - Internet Explorer, Google Chrome, Mozilla Firefox, Opera
- Part of a family of interoperable IoT enabling technologies – Vortex Intelligent Data Sharing Platform

## For More Information

For further information regarding Vortex Lite availability, platform support and pricing please e-mail: [ist\\_info@adlinktech.com](mailto:ist_info@adlinktech.com) or visit: [ist.adlinktech.com](http://ist.adlinktech.com)



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