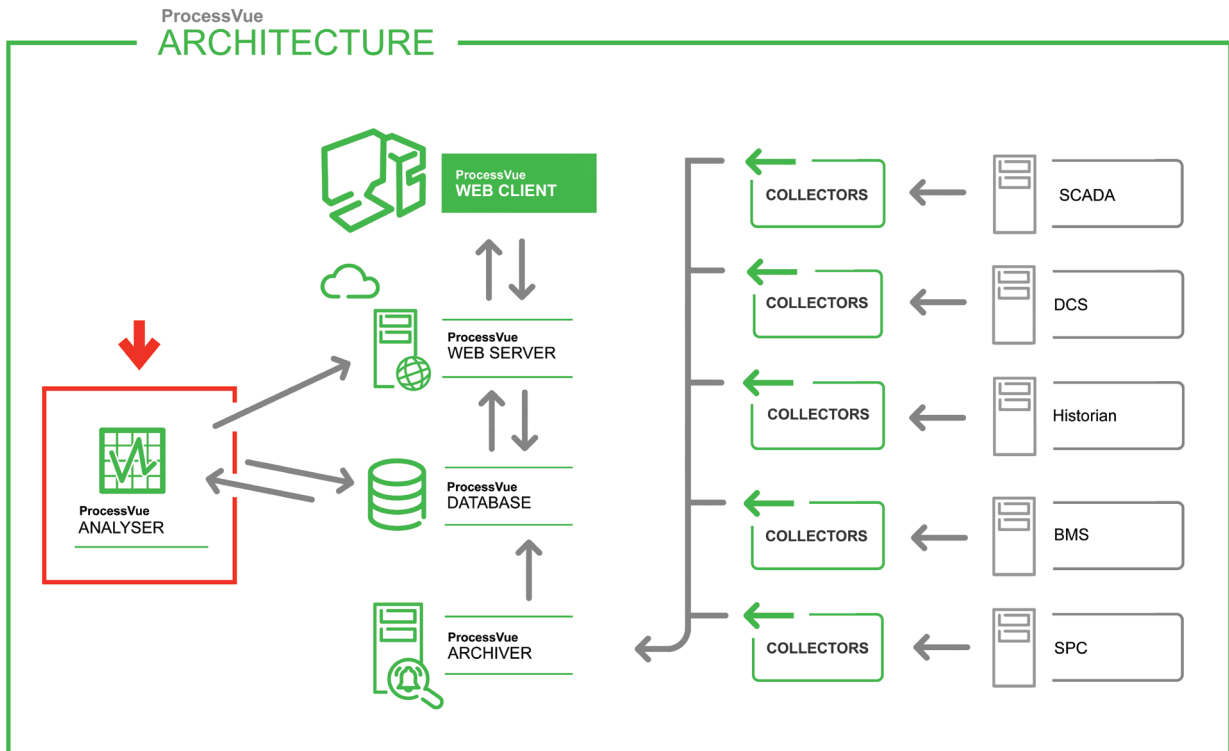# THE ANALYSER

What is it and what does it do?

The Analyser is a service within the ProcessVue Alarm Management Suite. It provides the statistical data to drive the real-time dashboards, and reports, in the ProcessVue Analyser Web Client.

ProcessVue
ARCHITECTURE

How it works

The Analyser is a data warehouse that tracks alarms, their durations, and the associated statistical analyses. It creates and maintains a set of tables in the ProcessVue database. These tables are derived from the "sequence of events" tables generated by the Archiver Service. When the Archiver Service logs a message to its "sequence of events" tables, it identifies the message type based on keywords written to the "Alarm Action" field. Subsequently, the Analyser can recognise these message types.

The Analyser is capable of processing the following types of messages:

Alarm Action Keyword	Message Type
ALM	Alarm
RTN	Return to Normal
ACK	Acknowledge
INBON	Inhibit On
INBOFF	Inhibit Off
SHLV	Shelved
USHLV	Unshelved
OVRON	Override On
OVROFF	Override Off

When the Analyser receives an alarm, it checks its asset register to determine whether the alarm is new or existing. If the alarm is already recognised, the Analyser increments the alarm count and logs the date and time of this recurrence. If it's a new alarm, the system adds it to the asset register, initialises a new alarm count, and records the date and time.

Regardless of whether the alarm is new or existing, the Analyser monitors its duration. Once the alarm returns to its normal state, the Analyser will conclude its monitoring. If an operator acknowledges the alarm while it's active, the Analyser logs this action to provide insights into operator response KPIs. The Analyser associates both the acknowledgment and the return-to-normal messages with the active alarm using its unique identifier, also known as the alarm's TAG.

Inhibits and overrides are tracked in the same manner as alarms. This allows users to monitor durations through the Analyser Web Client.

This optimised approach enables the Analyser to manage large amounts of statistical data, and to present this data in a timely manner for consumption by the Analyser Web Client.

The Analyser monitors alarms in 10-minute intervals, in accordance with the Alarm Management Standards and Guidelines, such as EEMUA 191, ISA18.2 and IEC62682.

Metrics generated by the Analyser include:

- Alarm rates
- Most frequent alarm analysis
- Nuisance alarm identification
- Stale alarm analysis.
- Time in alarm analysis
- Operator response times
- Priority distribution
- Alarm floods and their durations

The Analyser software can be installed in a distributed architecture or on a single machine. By design it will use the same SQL Server as the ProcessVue Archiver software, creating its own set of specific tables.

Software

- Windows: 32/64-bit Vista or 32/64 bit
- Windows 7/10 or 32/64 bit Server 2008/R2
- Microsoft .NET Framework 4.8
- Latest Service Packs and Updates for the above

Hardware

- Quad Core or above Processor
- 16 GB of System RAM (Per 20 users)
- 1TB Hard disk for ProcessVue System

VERSION 1.0

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