

GOOD SOLUTIONS / GUIDE TO SET UP OPC CONNECTION



What is OPC?

OPC provides a common bridge between Windows-based software (like RS Production) and process control hardware. OPC offers a standard way to read/write data from/to plant floor devices.

Read more about OPC here

(https://en.wikipedia.org/wiki/Open_Platform_Communications) and its successor OPC UA here

(https://en.wikipedia.org/wiki/OPC_Unified_Architecture)

RS Production version 17.10 and later has full support for OPC UA.

Recommended OPC-server

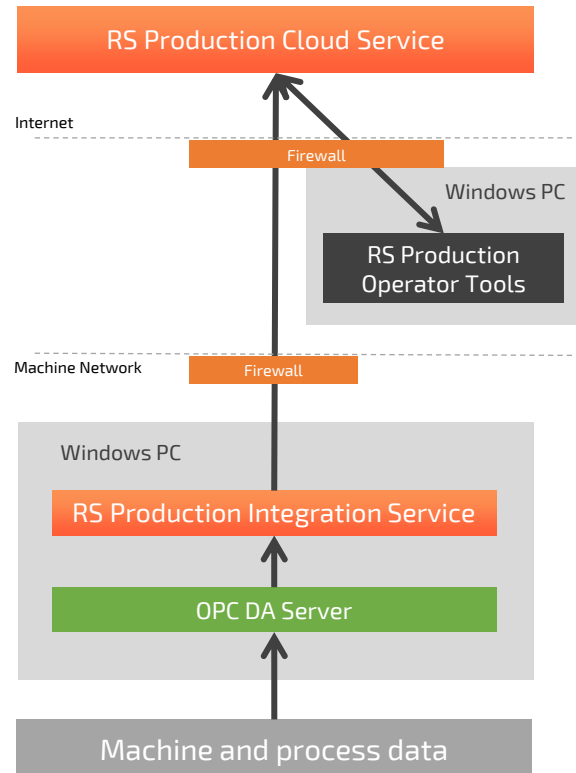
RS Production OPC client has a plug-and-play ready connection to Kepware's OPC-server.

Kepware's OPC server have drivers for most types of machinery and equipment. More information is available on <http://www.kepware.com>



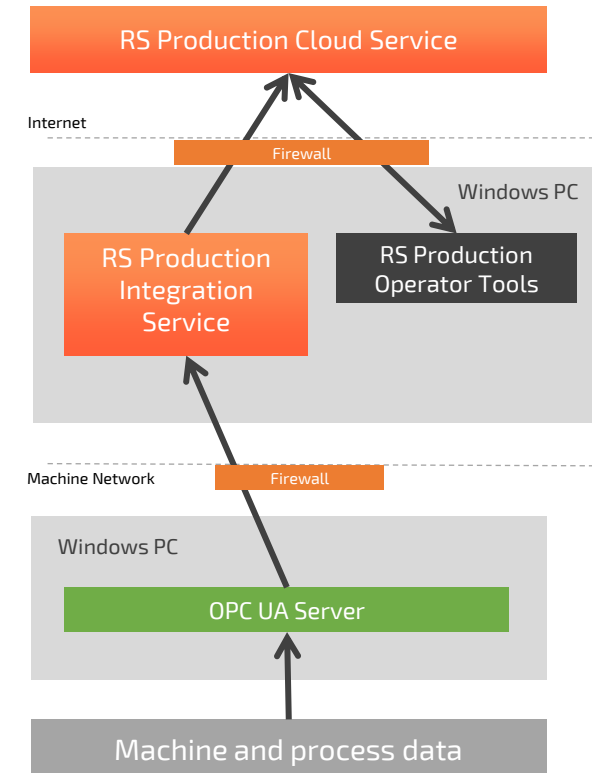
OPC DA

Older version of OPC where integration client needs to be installed on the same computer as the OPC server.



OPC UA

Newer version of OPC where it's more flexible where integration client can be installed.



Principles for capture of cycles, produced and scrapped amounts

OPC update rate is about 0.1 seconds, which is slow in a real time context. To avoid missing cycles and pulses, RS Production uses an increasing counter. If you want it is possible to set a reset point where the counter restarts at 0.

Principles for capture of machine uptime signals

RS Production reads operating signals (uptime/downtime) every second. Every reading cycle, RS Production reads (samples) the current value of a specified field. This means that the system does not log any information about the exact time (in milliseconds) since the field changed.

Cycle/pulse #	Value in the OPC field
1	1
2	2
3	3
...	...
9 998	9 998
9 999	9 999
10 000	0
10 001	1
10 002	3
...	...
19 999	9 999
20 000	0
20 001	1
...	...

Example with a reset point at 9 999

Machine status	Value in the OPC field
Operational (Uptime)	1
Downtime	0

Principles for collecting automatic reason encoding and station encoding of downtime

RS Production can automatically capture and categorize stops with both reason code and station code.

Each reason code and station code needs a specific OPC field that reflects its status.

Principles for machine alarm signals

RS Production can capture machine alarms and store them in a table available in Office tools.

Machine alarms in RS Production has one of two possible statuses in the table to the right.

Each alarm needs to have its own OPC-field and RS Production timestamps the status changes.

Reason/station code status	Value in the OPC field
Active	1
Not active	0

Alarm status	Value in the OPC field
Active	1
Not active	0