

DeltaV OPC UA server and client capacities

DeltaV OPC UA Server Capacity

Description	Application Station	Profes
Real-Time Data (DA)	30,000 monitored items per second (https://guardian.emerson.com/docs/DELTA/BOL/bol1431/c_opc_ua_specifications.html#r_opc_ua_capacities__fn_0) 2,000 writes per second 100 concurrent clients	250 mc (https://guardian.emerson.com/docs/DELTA/BOL/bol1431/c_opc_ua_specifications.html#r_opc_ua_capacities__fn_0) 2 conc
Alarms and Events (A&E)	300 events per second 25 concurrent clients	300 eve (https://guardian.emerson.com/docs/DELTA/BOL/bol1431/c_opc_ua_specifications.html#r_opc_ua_capacities__fn_0) 25 conc
Historical Data (HDA)	7,000 parameters per second 25 concurrent clients	7,000 p (https://guardian.emerson.com/docs/DELTA/BOL/bol1431/c_opc_ua_specifications.html#r_opc_ua_capacities__fn_0) 25 conc
Transportation	Binary, HTTP, and HTTPS	Binary,
Redundancy	Not supported	Not sup

DeltaV OPC UA Client Capacity

Description	Application Station	Pr
Real-Time Data (DA)	30,000 monitored items per second 15,000 writes per second 64 concurrent clients (https://guardian.emerson.com/docs/DELTA/BOL/bol1431/c_opc_ua_specifications.html#r_opc_ua_capacities__fn_clients)	30 (h 15 64 (h
Alarms and Events (A&E)	Not supported	Nc
Historical Data (HDA)	Not supported	Nc
Transportation	Binary	Bi
Redundancy	No	Nc

Notes on OPC UA capacities

- All performance specifications provided are with OPC UA security disabled in the clients and servers and have a $\pm 3\%$ variation. Expect lesser communications performance if security is enabled.
- Workstation-based control using OPC UA clients or servers does not provide the same performance as physical controllers or EIOCs but is acceptable for most monitoring and non-critical control applications. Specifically, workstation-based control is supported for a minimum of 1 second execution (compared to 100 milliseconds in a physical controller).

¹ Client redundancy might affect the number of items that are used. For example, a redundant EIOC OPC UA client uses twice the number of configured items.

² The PK controller supports six concurrent sessions that can be consumed by three clients. A redundant OPC UA client connected to the PK controller consumes more than one session.

³ HDA and A&E performance in the ProfessionalPlus may be less due the number of critical applications running in the workstation. If you have specific performance requirements for HDA and A&E applications, use a dedicated Applications Station.

⁴ High Availability means that when a controller switchover occurs, the client will be disconnected. The OPC UA server is available to the new active controller almost immediately, using the same IP address but a different MAC address. The client is responsible for re-connecting with the OPC UA server once the server is active.

⁵ When connecting a PK controller to a redundant OPC UA client with redundant communications (for example, an EIOC), the client can consume four times the monitored items and four times the number of sessions from the OPC UA server. In this scenario, the maximum capacity is 1,250 monitored items/sec and four sessions (leaving two sessions for diagnostics).

⁶ Clients are equivalent to Physical Devices (PDTs) when configuring the OPC UA clients in DeltaV Explorer.

⁷ The performance of the ProfessionalPLUS OPC UA client may be less due the number of critical applications that run in the workstation. If you have specific communications performance requirements the OPC UA client, use a dedicated Applications Station or an EIOC.

⁸ (https://guardian.emerson.com/docs/DELTA/BOL/bol1431/#fnsrc_8) Redundant installations use more sessions and tags. For example, a redundant EIOC on a single device network consumes two sessions and twice the amount of tags from the OPC UA server to which it is connected. A non-redundant EIOC on a redundant device network also consumes two sessions and twice the amount of tags. A redundant EIOC on a redundant device network consumes four sessions and four times the amount of tags.