

Paragon Remote Client Application Software

Minimum PC requirements and PC management recommendation

Calnex Paragon product family is configured and monitored using *Paragon Remote Client* application software which runs on a user-supplied PC connected to the Paragon hardware. The client must intensively transfer data during operation, in particular between the Paragon hardware and the PC's file structure. Significant processing of data is also required. For the entire Paragon system to run with acceptable performance, the PC used must meet or exceed the specifications described as follows.

Recommended

For simultaneous operation of all of the features of the Paragon at maximum capture or replay rates.

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| Microsoft Windows OS | 7 (32 and 64 bit), 10 (32 and 64 bit) |
| Microprocessor | 2.3 GHz Intel® Core™ 2 Duo processor or equivalent |
| Microprocessor Cache | Level 2 cache 1MB or equivalent |
| Memory | 2048 MB |
| Hard Drive | 120GB (7200rpm) |
| Display Resolution | 1280 x 1024 |
| Network Card | Ethernet 100BaseT |

Required for Calnex Analysis Tool (CAT)

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| Microsoft Windows OS | 7 (32 and 64 bit), 10 (32 and 64 bit) |
| .NET version | 3.5 and 4.x (both must be enabled) FULL version of 4.x required (client profile and extended packages not sufficient) |

Minimum - for light use only

Only one of the following operations is recommended at the Paragon's maximum capture or replay packet rate:

- Any one primary Operating Mode – no simultaneous capture
- Any Replay and/or Impairment

In addition, the analysis tools CAT and PFV would be recommended to be run only post-capture.

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|----------------------|--|
| Microsoft Windows OS | 7 (32 and 64 bit), 10 (32 and 64 bit) |
| Microprocessor | 1.9 GHz Intel® Core™ Duo processor or equivalent |
| Microprocessor Cache | Level 2 cache 1MB or equivalent |
| Memory | 1024 MB |
| Hard Drive | 120GB (5400rpm) |
| Display Resolution | 1280 x 800 |
| Network Card | Ethernet 100BaseT |

The *Paragon Remote Client* application is comparable to video processing software. Many hours of capture at maximum packet rates can result in data volumes of many Gigabytes.

Unlike video processing software, *Paragon Remote Client* processes this data in **Real Time**. Consequently, the specification and software maintenance level of your PC will play a large part in the ability of Paragon Remote Client to perform to its maximum ability.

Specifically for **Minimum Specification** PCs, but applying equally to all PCs, if you experience a degradation in performance of your *Paragon Remote Client* software or are trying to increase your maximum packet capture rate then please refer to the following recommendations overleaf.

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| PC to Paragon Ethernet Connection | Do directly connect your Paragon instrument to your PC using a single Ethernet cable. Additional network elements in the path, such as an office LAN, can degrade data transfer performance. The recommended approach to control over a network is to deploy a local controller directly connected to the Paragon hardware, and running the Paragon application. Use a remote desktop arrangement to access the Paragon application over the network. |
| PC Setup – Multitasking | Do not run additional programs on your PC while you are actively using the <i>Paragon Remote Client</i> software. On Minimum Specification PCs, this will result in increased use of virtual memory eventually leading to all applications apparently stalling or freezing. |
| PC Setup – Scheduled Tasks | Do disable any maintenance tasks your PC may perform during a capture. Performance can quickly degrade and capture data can be lost if your PC decides, for example, to defragment its hard drive, run a virus scan or perform Windows Updates. |
| PC Setup – Hard Drive | Do defragment your hard drive at least once a month. Overnight capture can result in file sizes of many Gigabytes. The PC's file system will perform better if these files are contiguous. |
| Software Setup – File Management | Do ensure that you have sufficient disk space for capturing data. Overnight capture can result in file sizes of many Gigabytes. Adjust <i>Paragon Remote Client's</i> Resource Management control to delete unwanted capture files on a regular basis. |
| PC Setup – Virus Checker | Do disable any virus checker software. See <i>PC Setup – Multitasking</i> . |
| PC Setup – Power Management | Do disable any Power Management or Power Options settings. Parameters such as Hibernation, System Standby and Hard Disk timeouts have all been known to occur briefly during Paragon Capture. Monitor standby is permitted, although some screensaver programs can be CPU intensive. |
| PC Setup – Unwanted Services | Do disable or remove any third party tools which run in background on your PC such as <i>iTunes</i> or <i>Windows Media Server</i> . These and other applets can run frequently, monitoring your hard drive or downloading and installing updates. |
| PC Setup – Firewall | Do have your IT department open TCP port 9990 if you are trying to connect to a Paragon local controller across a network firewall. |

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