

DATRAN VI SCADA Server Requirements

Introduction

IT systems are constantly evolving to not only provide new features but also provide greater security. QTech have also been working to ensure Datran keeps up with the times to ensure compatibility with new operating systems and server architectures.

Operating Systems

DATRAN VI works on a Microsoft desktop operating system such as Windows XP, Windows 7 and Windows 10, although QTech recommend that for an infrastructure critical application that DATRAN VI should be run on a Microsoft Server platform. Server platforms are designed to run 24/7 and provide far greater support features including multiple VPN connections which allow for greater remote management.

The Microsoft Server platforms that have been tested and approved with DATRAN VI include Server 2008 R2, Server 2012 and Server 2016. These Server platforms are all 64bit systems as this provides better memory management for the operating system, SQL database and all applications. As DATRAN VI is an efficient, resource light application which does not need to address more than 4GB of data, it remains a 32bit application as do most Microsoft Windows applications which are not memory intensive. Windows Server 2003 and Windows XP are no longer recommended as Microsoft has ceased support for them.

Hardware Selection

The SCADA server should be regarded as a mission-critical system and as such, QTech strongly recommends that DATRAN VI be run on an industrial grade or enterprise grade server. The server should also be located in a secure air conditioned rack.

Commercial or consumer grade systems are designed to operate 8 hours per day, 5 days per week with a life span of 3 -5 years and running these systems 24/7 will reduce their operating life and increase the risk of failures. Industrial and enterprise grade systems include redundant power supplies and cooling fans, are designed to operate 24/7 with minimal downtime, have electronics that are designed to operate 24/7 for 5 to 7 years, and are backed by proper support.

The CPU selection should be based on the requirements for the operating system, SQL database, and other applications, as DATRAN VI places minimal demand on current processors.

Memory Requirements

It is recommended that the memory requirements are based on the needs of the operating system, SQL database and other applications as DATRAN VI has minimal memory requirements. As a minimum it is recommended that the system have at least 4GB.

Storage

Both the SQL database and DATRAN VI place small demands on current storage systems and the smallest of storage options will greatly exceed the systems demands. For reliability purposes the use of RAID arrays or solid state drives is recommended as are systems to perform an off-site or removable backup with procedures in place to restore systems after major failures.

It must be remembered that DATRAN VI utilise the hard drive serial number for licencing purposes and that for RAID systems, QTech requires the Logical Drive details for the drive where DATRAN is installed (usually drive C).

Serial Ports and Connectivity

Whilst serial ports are considered very old technology in IT fields, they are still the most widely used form of communications for industrial systems due to their simple design providing very high reliability and fault tolerance. Historically QTech have recommended platforms to have native RS-232 serial ports but, with the exception of industrial grade computers, these ports are typically not found on current computer systems.

SCADA systems must have communication systems which can survive major emergencies and radio systems have been found to be the most reliable at these times. The majority of radio systems utilise RS-232 as the data rates are low and the reliability is high. DATRAN VI requires a number of RS-232 ports (depending on the configuration) and current systems are recommended to use an Ethernet based Serial Device Server which can provide multiple serial ports to the SCADA server.

Previously USB based devices were recommended although with time these have been shown to be unreliable and most industrial systems have moved away from USB.

SQL Database

DATRAN VI requires an SQL database for storing and managing the data received from the remote sites. A DATRAN database with several years of data is typically well under 10GB and as such any current versions of Microsoft SQL Server, including the free SQL Server Express, is sufficient. Older data can be stored in a separate DATRAN database, which can still be accessed by Trending.

Server Architecture

With the enormous increase in processing performance from modern servers, many IT departments are changing the architecture of their system to include virtual servers and cloud based servers. Many customers already have DATRAN VI running on their virtual servers and some are looking at cloud based options. Whilst the majority of DATRAN VI requirements are fine within a virtual system, there are some aspects that require proper planning prior to migration. QTech's technical support are happy to work with your IT department to ensure a clean migration, please contact us with your requirements.