

Integrated Workstation and Tablet Solutions

The Quantum EMR System has been developed using an app-based architecture. This modern approach to software design ensures that the clinical interface is highly flexible and easy to configure for a wide range of clinical workflows.

Easy to learn and use, the Quantum EMR “App-Store” software is highly responsive with single-tier navigation offering peace of mind that the process of electronic data collection will not impact patient care or patient safety. It is ideally suited as a solution for clinical specialty areas not typically supported by larger enterprise systems or where flexible workflow is a key requirement for clinical use.

The Quantum Workstation designed for the Clinical Specialty

A Quantum Workstation utilizing the Quantum “App-Store” software is Spectrum Medical’s solution to clinical interfacing, 3rd party device integration, data collection and the generation of an EMR for a range of clinical specialties including Anesthesia, Perfusion and the ICU.

Manufactured from medical grade alumi-

num materials with the latest capacitive touchscreen technologies, the VIPER Workstation complies with all current medical and safety regulations and comes with a 15" portrait screen.

Quantum Tablet: Lightweight and Portable

Operating as either a standalone solution or as an adjunct to a Quantum Workstation installation, the Quantum Tablet adds mobility and flexibility to Spectrum Medical’s world leading EMR solutions. Utilizing the identical “App-Store” software as that used in the Quantum Workstation minimizes user training and increases flexibility which is especially important when creating the Pre-Operative and Post Anesthesia Care records.

Furthermore, Wi-Fi capability enables the Tablet to stay connected to the VISION Server to ensure real-time HL7 integration with the HIS.



Quantum Tablet



Quantum Workstation

Medical Device Connectivity:

To reduce the costs associated with EMR adoption, Spectrum Medical has integrated device connectivity as a standard capability within the Quantum Workstation, thereby eliminating the requirement for a 3rd party connectivity solution provider.

Key features of Quantum's device connectivity solutions are:

- Positive patient association with all collected data.
- Data collection from all physiologic monitors and ancillary devices in the O.R. or specialty setting.
- Quantum's connectivity solution supports near real-time transfer of data for remote trending analysis and patient alert systems.
- Connectivity options including RS232, Wi-Fi and conventional wired networks.

The Powerhouse behind Spectrum Medical's Clinical Information System

VISION is a sophisticated server application that is the hub of Spectrum Medical's EMR technology. VISION automates the system wide maintenance of software, the creation and transfer of patient records and inbound and outbound messaging to the HIS using HL7 and PDF formats.

About VISION

VISION is loaded onto a customer supplied server (standalone or virtual) with access to Microsoft Windows Server 2012 or later and Microsoft SQL 2012 or later Workgroup Edition database. Using an interface engine supplied by Mirth Inc., VISION supports the download of ADT, Labs, Orders, etc. to Quantum's clinical interface. VISION allows data collected on Quantum to pass-through to the patient's EHR or other 3rd party applications using HL7 & XML interfaces & PDF uploads.

To maximize data security of active case records, the VISION server logs data on a real-time basis and maintains an active secondary record to the one being generated by the Quantum Workstation or Tablet. In the unlikely event that a Quantum Workstation should go off-line while a case is running, exchanging the monitor will immediately recover the case.

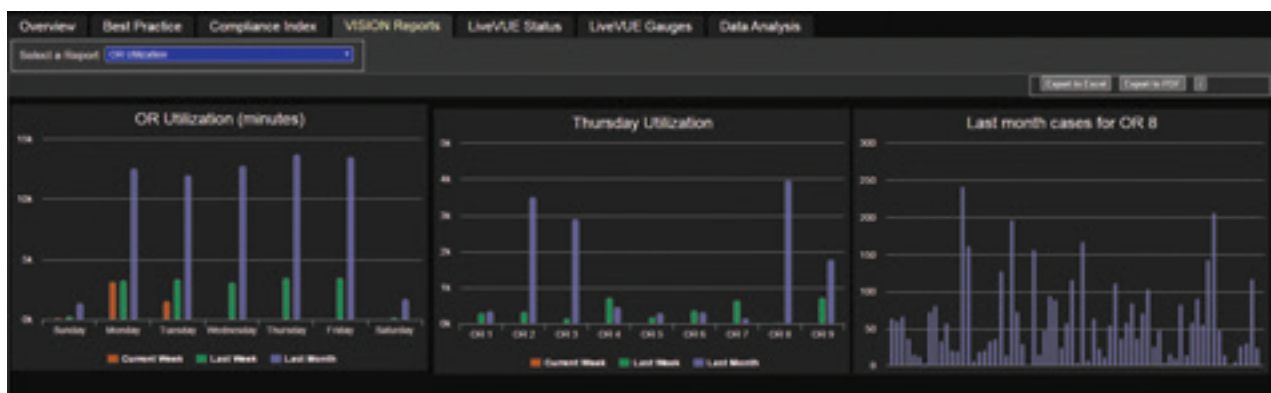
The VISION Server allows for the automatic distribution of all software upgrades as well as windows and security

updates. The application provides utilities to support the management of user passwords and access privileges and can be fully integrated with Active Directory.

An important feature of the VISION server application is its integrated web browser capability, which allows for quick and easy access to information from any location within a hospital with a secure hospital VPN connection. A new feature for 2018 is the ability to launch into VISION reporting directly from an existing HIS implementation.

Dashboards & Reporting

Spectrum Medical recognizes that dashboards and reporting systems are core to delivering information and clinical analytics across the continuum of health-care. To deliver this functionality Spectrum Medical has partnered with LOGI Analytics, a recognized leader in the field of data visualization and data analytics. The LOGI "tool-set" is now a standard module within the VISION server system.



Utilization Report

Vision Server Installation Requirements

Software

Operating System	Microsoft Windows Server 2016, 2014, 2012
Database	Microsoft SQL Server Standard Edition 2016, 2012
Internet services	IIS version 10.x, 8.x, 7.x (or latest release)
.NET framework	Version 4.x (or latest release)
Java	Version 11, 8.x (or latest release) *
Mirth Connect	Version 3.x

Hardware

Type	Physical or virtual
CPU	Minimum 2 processors, Quad-Core 2GHz+
RAM	16GB+

Disc Storage Requirements

OS and applications	50GB (reserved for Windows and applications)
	100GB separate drive for Vision Server and data
Case Storage for SQL Data	100 GB (10MB / Case, 1000 cases / year x 10 years). This is a general estimate. Space required for data storage depends on the number of channels of real-time data collected, the logging frequency, the number of cases per year and the number of years of archival storage.

Suggested servers per Vision Installation

1 Vision Server – Test

1 Vision Server – Production

SQL Server can be installed on Vision Server(s) or can use corporate instance based on SQL licensing requirements.

Vision Server normally uses 3 databases per environment.

- MIRTHDB (Interface database)
- VISION (Archive database)
- VISION_LIVE (Live database)

Remote Access

SecureLink is the preferred method of connecting for remote access.

SecureLink requires at least one email address to be used for audit notifications.

- This email address can be an individual or a group email address.

Spectrum Medical can utilize a network service account or individual network account to utilize with SecureLink to access the server(s) for installation, configuration and support.

* Java may require additional subscription for security updates. Older version(s) can be used, however without latest security patches.

Quantum Workstation Specification

Hardware

Manufactured from medical grade aluminum materials and with the latest capacitive touch-screen technologies, the Medically Approved Quantum Workstation complies with the very latest medical and safety regulations in accordance with IEC 62304 and ISO 60601.

Software

OS	Windows 10 IoT Enterprise 2019 LTSC (Anti-Virus to be managed by customer)
Application code	Spectrum Medical proprietary software.

Electronics

Main Processor	Intel Atom E3845 Quad-Core 1.91 GHz
Memory	4GB DDR3
Storage	64GB (or greater) Solid State Drive
	2GB (or greater) SD Card

Display

Size	15" Portrait Mode with LED Backlight
Resolution	1024x768 (XGA)

Battery & Weight

Battery	2 x 14.4V 6600 mAh Li-ion, Run-time: > 90 minutes
Weight	8.2 Kgs / 18 Pounds

Communications

Serial / USB	3 - USB / Serial
Wired LAN	1 - 10/100Mbps



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