

Data Communications

Microsoft Retail Management System HeadQuarters (HQ) operations do not require dedicated, expensive, high-bandwidth phone lines. Instead, its data communication incorporates smart algorithms to economically compress and transfer data between the head office and retail stores. These minimal bandwidth requirements let you exploit low-cost, dial-up phone lines and the Internet. You can use a virtual private network (VPN) to securely transfer data via the Internet between the head office and retail stores. This network can easily accommodate simultaneous connections to hundreds of stores.

To enable remote stores to communicate with the head office database, HQ uses two software programs: HQ Remote Client (installed at each store) and HQ Communications Server at the head office. These programs are included in HQ.

Each remote HQ Client sends information from its store's database via the Internet, virtual private network or dial-up access to the HQ Communications Server. It automatically initiates a connection to the head office per a schedule you specify. Then it updates stores' databases per your directions in HQ worksheets.

The HQ Communications Server installed at the head office exchanges data between the HQ database and remote stores. It listens for incoming messages from stores, then processes and stores their data in the HQ database. Next, HQ forwards directives you have entered into HQ to the remote stores you specify. An HQ Communications Server can handle connections from multiple stores concurrently, though messages are processed sequentially to ensure data consistency. Large retail enterprises can add more HQ Communications Server machines to distribute the load.

To ensure reliability and delivery, the data transfer between the HQ Communications Server and HQ Client is message-oriented. Error detection and retry logics are built into the communication protocol, which is based on industry standard TCP/IP sockets.