



# About the UltraKey 5.0 Data Server Software

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In 2005, Bytes of Learning released the first ever IP-based data management system for instructional software. This page addresses the most common questions about this technology:

## Overview

The UltraKey 5.0 Data Server Software is a service application that runs in the background on a Windows computer. Its purpose is to store and retrieve data for all copies of the UltraKey 5.0 instructional program (client) that communicate with the server software.

The server software communicates with copies of UltraKey 5.0 running on Windows and Mac computers. This communication consists of data packets, which are transmitted using Internet Protocol (IP). IP is the same format anti-virus programs use to communicate virus definitions, and email programs use to transmit emails.

In older software technology, the instructional software keeps central records using a shared space on a network server. In its day, this approach worked well but the method has become impractical in today's security-conscious environments. The use of shared network spaces also limits the data management to local networks.

## System Requirements

The UltraKey 5.0 Data Server software may be installed on any Windows PC or server running Windows 2000, Server 2000, Server 2003, XP, Server 2008, Vista or Windows 7. The data server software operates as a background service and may co-locate with other services and applications on the same PC.

Even an older PC will easily serve a school's needs. It only needs to have a fixed IP address so clients can locate it as needed.

For district-wide service, the data server software should be installed on a current server with the usual high-speed access that district-level servers have. The server software easily co-locates with other services. About 100 MB of data space is required per school.

**Note:** On Vista and Windows 7 installations, always start the data server startup program as an administrator.

## No Shared Data Space Required

The UltraKey 5.0 Data Server Software writes and reads data from a data directory that is normally located at the route of the main drive. The data directory can be located elsewhere.

Windows services, such as the UltraKey data server software, operate under authority of the Local User account, so this account must be granted full administration rights to the data directory. No other users should be granted any rights at all to the data directory.

Some technicians incorrectly assume the data directory should be located where other network programs write their data. Some also incorrectly assume the data directory must be shared to users of UltraKey 5.0.

With IP-based data management, the client communicates with the server software, which in turn does all the storage and retrieval of data. Users never access the server, which is why no user requires permission and total security is guaranteed.

## Benefits of IP-based Data Management

Prior to implementing the new IP-data management system, more than 95% of all technical help calls coming to Bytes of Learning resulted from permission problems on networks. Since implementing the new IP-based data management system, the call rate has dropped by over 80%.

Today, most help calls arise from customers wanting to know how to better use the UltraKey software, more than they do with any technical problems. The whole nature of instructional software application changes with IP-based data management.

Main benefits are:

- Network permission problems and security threats are eliminated because nobody requires access to the server.
- One implementation can serve all schools in the District. Maintenance and support costs are nearly zero.
- Once the data server software is set up, host managers control everything for their schools using the UltraKey 5.0 client. The District central office only has to make sure the central server is running.
- Class interruptions due to technical problems are minimized, and classroom teachers rarely have to wait for central technicians to fix problems.
- Teachers may install UltraKey 5.0 copies at home where they can manage their classes the same way as they do at school.
- At the district's discretion, students who have copies of UltraKey at home, may carry on learning while their progress is recorded at the district server. All this happens seamlessly through the Internet with no security threat to district servers.

## Unique Features of the UltraKey 5.0 Data Server Software

Bytes of Learning researched and developed the UltraKey server software to handle thousands of student users and teacher users simultaneously with no noticeable slowdown. Extensive error handling intelligence makes the service extremely reliable.

To ensure privacy, the UltraKey server software encrypts all communication so sensitive student information cannot be intercepted. Passwords are never transmitted from the server to the client programs, ensuring they remain secure along with the integrity of the data system.

To minimize the need for central support, all the management functions including enrollment, are contained in the client software. So teachers can easily meet their own needs without central assistance.



## How all-Mac Schools Use Windows Server Software

Mac users choose UltraKey 5.0 in the first place because the client is always supported on the latest Mac OS X platforms including Snow Leopard. Here is how all-Mac schools and districts are utilizing the Windows-based server software:

- Most all-Mac districts have at least one Windows server in the district already performing some task. These districts have installed the UltraKey 5.0 Data Server software, easily serving every all-Mac school.
- Some all-Mac schools have implemented the server software on a Windows partition running on a Macintosh using Parallels or Boot Camp.
- Some Mac Schools have located unused PCs and hooked them up to the local network.

Bytes of Learning constantly researches and develops new technologies. so it is considering a Unix-based Data Server application, which would provide all-Mac schools with an all-Mac solution. However, no specific date has been set for such a release. In the meantime, we suggest the above strategies so all-Mac schools can enjoy the best available services regardless of whether a Mac-based server solution is available.



## How Novell Schools Use Windows Server Software

The UltraKey 5.0 Data Server software cannot operate on a Novell server because it is a service that requires certain Windows-based functions. However, the server software can operate on any workstation or PC connected to a Novell network.

The only requirement is that the server software must be on a computer that has a static IP address so the UltraKey 5.0 client copies can locate it. The UltraKey 5.0 client copies can operated on any Novel workstation regardless of whether it has a fixed IP address or not.

Districts that have Novell-based systems in their school, install the UltraKey 5.0 Data Server software on a Windows server at their central office. The one installation then services all the schools in the District, regardless of whether they use Novel, Windows, Linux or Macintosh networks.



## How Home Users Connect to the School

To allow secure communication from outside the school, the host manager or teacher creates a connection key file using the UltraKey 5.0 client. This encrypted file is distributed to home users.

When home users double-click the connection key file, UltraKey starts and decrypts the key for internal use. Then UltraKey communicates with the data server software using the home Internet connection. Users then operate UltraKey like they never left the school site. In virtual school settings, this feature allows students to operate solely from their remote locations, without ever having to go anywhere.

Connection keys do not permit management access unless the manager tells it to.

The home user must have an installed copy of UltraKey 5.0. Teachers are permitted to install copies of UltraKey 5.0 at home at no charge. Students must purchase the software. Bytes of Learning also provides laptop licensing that lets copies of UltraKey 5.0 be used on and off campus.

If the school or district does not want home-to-school connections, they just don't use this capability and do not distribute a connection key



## Firewall Port Must be Opened

UltraKey communication occurs through port 5976, so it must be opened on any firewall that stands between the UltraKey 5.0 client and the UltraKey 5.0 Data Server software. Whenever an UltraKey 5.0 client copy cannot locate the UltraKey 5.0 Data Server installation, the most likely cause is that a firewall is preventing the communication.

Opening a firewall port is a standard requirement for IP-based data communication that does not breach security or weaken the firewall. Certain firewall ports are already open by default so the computer can network, browse the Internet and pick up email. The word 'open' is better understood as an enabling of communication to occur. It is not a door through which an uninvited person can intrude.



## Testing the Server Software Before You Buy

A server software trial license is included with every UltraKey 5.0 school trial. Schools are welcome to install and test the UltraKey 5.0 Data Server software to whatever extent they need. For multiple schools, districts are invited to contact us for a server key that permits multiple-school use.

Bytes of Learning provides free technical support to help districts set up the software, and it continues supporting throughout the testing period. Support after purchase is also provided free of charge.

When the school or district purchases an UltraKey 5.0 license, the customer needs only to enter the new license key. No re-installation is required. All data and configurations remain intact so the district and school can continue using UltraKey 5.0 without interruption.



## Purchasing the Server Software

The UltraKey 5.0 Data Server software and license are provided with every Network IP edition of UltraKey 5.0. The server software is included with all unlimited site licenses including the one-year unlimited site license currently offered through this web site and all resellers.

If you own UltraKey 4.0 or a Standalone Plus edition of UltraKey 5.0, contact our customer service department to request an upgrade quote. Please provide details about your current license so we can better assist you.



## Getting More Information and Assistance

Feel free to contact us and discuss your particular situation in more detail.

If you have a software selection team or you need to satisfy the concerns of several departments in the school or district, we are pleased to arrange an Internet conference with all your colleagues at a mutually acceptable time.

### **Contact Bytes of Learning at the following connections:**

Call: 1-800-465-6428 (Canada ++905-947-4646)

Fax: 905-475-8650

Email: [sales@bytesoflearning.com](mailto:sales@bytesoflearning.com) or [techhelp@bytesoflearning.com](mailto:techhelp@bytesoflearning.com)

Visit: [www.bytesoflearning.com](http://www.bytesoflearning.com)