



HyperXeon Lite

Administrator Guide

Revision 1.0
February 2009

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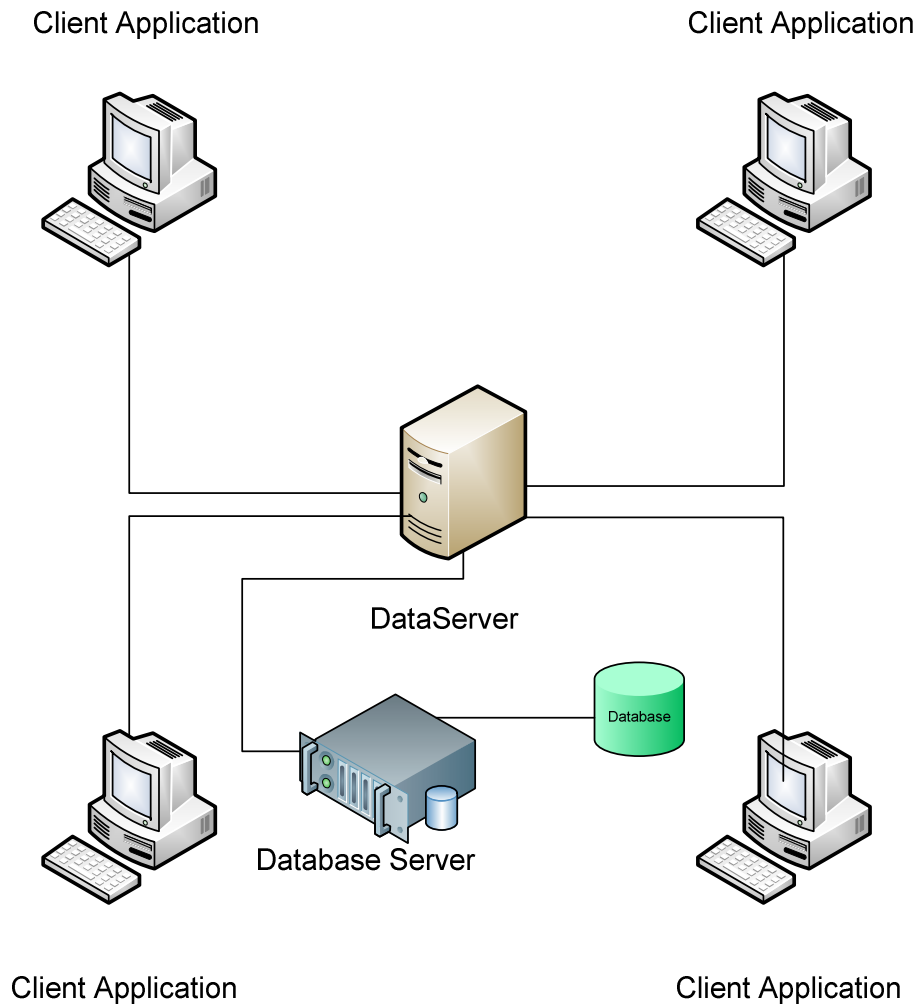
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Introduction

HyperXeon Data Platform Technology is Upsilon Dynamics new proprietary server technology and concept that in a nutshell allows multiple client applications to use the same server that provides access to facilities such as database access, network access, encryption, compression, security, licensing, client distribution and much more. The system consists of a server, combined with client applications connecting to the server which in turn connects to database servers and other data storage mechanisms.



The concept is no different than the conventional client/server architecture used in most network based applications today with a few yet highly innovative advantages.

HyperXeon Lite Server

The Lite distribution of the server provides a subset of the total functions the full featured HyperXeon server has to offer; Upsilon Dynamics chooses to use the Lite version for applications and clients that don't require or need the more advanced administrative features of the full server application.

One Architecture - One Solution

The HyperXeon DataServer application is a highly flexible and versatile server application designed to provide a single and dynamic point of contact that provides services for not one; but many different applications simultaneously.

With a single server spanning all Upsilon Dynamics applications, administrative training is reduced and IT expenditures related to servicing of multiple servers is also reduced. This single point of contact architecture also allows applications to access and store data in a standardized way, allowing easy integration between applications if necessary.

Network Availability for Enterprise Level Multi User Systems

Immediately when you use the API for accessing the server, you have all the functionality and connectivity of a fully networkable application. All applications connecting to the server have the potential to be made into multi-user systems very easily using the API's.

Commercial Database Support

The server supports many types of commercially available database systems including:

- Oracle
- DB2
- SQL Server 2003/2005/2008
- MySQL
- PostgreSQL
- Access
- SQLite (for lightweight single user applications)

This allows administrators to choose whatever database system they feel is best suited to their needs; and what is appropriate based on the type of application, data needs, scalability and other factors.

Note: Customers must obtain the proper licensing and database software to use. The system comes preconfigured to use Access and SQLite; but more advanced RDBMS requires administrator configuration.

Database Structure and Creation

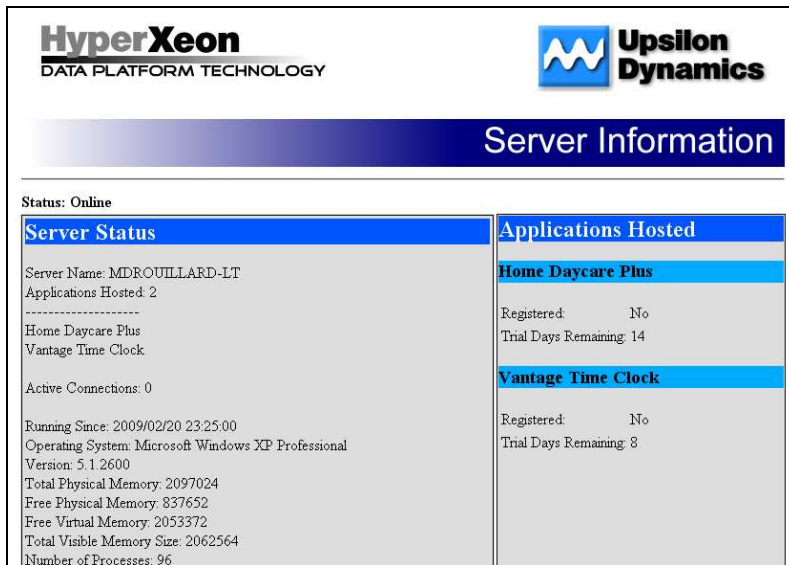
The DataServer uses a portable schema replication system, meaning Database schema is created automatically for you and pre-populated with whatever data is necessary for the applications using the server. The system supports tables, multiple field types, indexes and constraints. This allows for easy upgrades and initial installations without the need for complex scripts and processes. Schema changes, addition of fields and more is easy as the system automatically checks for tables and fields and automatically updates as necessary.

Flexible Licensing

The server takes care of all licensing; meaning licensing is done on a per application basis. Licensing can be set as permanent, with expiration, for an unlimited of unique clients as well as a specific maximum. Licensing is done in a standard way for all connecting applications; the server also supports trials which allow connectivity for a maximum of x number of days for trials.

Client Installer and Documentation Distribution

In addition to being an application server; the server application functions as a web server as well. Users can navigate to the server home page from anywhere on their network to download installers, documentation and more. For example, if the DataServer is installed on a server named "test" on port 6001; a user anywhere on the network can type: <http://test:6001> into their web browser and view the home page as shown in figure 1.0 below.



HyperXeon
DATA PLATFORM TECHNOLOGY

Upsilon Dynamics

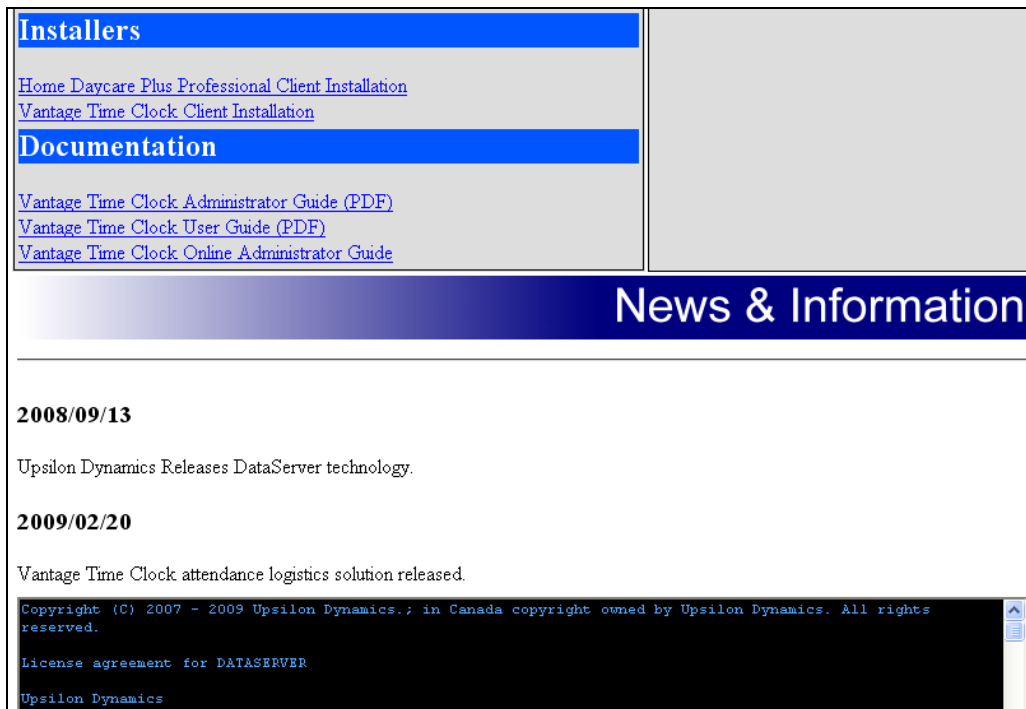
Server Information

Status: Online

Server Status	Applications Hosted
Server Name: MDROUILLARD-LT Applications Hosted: 2 ----- Home Daycare Plus Vantage Time Clock ----- Active Connections: 0 ----- Running Since: 2009/02/20 23:25:00 Operating System: Microsoft Windows XP Professional Version: 5.1.2600 Total Physical Memory: 2097024 Free Physical Memory: 837652 Free Virtual Memory: 2053372 Total Visible Memory Size: 2062564 Number of Processes: 96	Home Daycare Plus Registered: No Trial Days Remaining: 14 ----- Vantage Time Clock Registered: No Trial Days Remaining: 8

Fig 1.0

Installing client application is made extremely easy, you no longer have to search the network drive, run from PC to PC with installation CD's; simply navigate to the server home page and download all the installers and documentation you need (see figure 2.0 below).



Installers

[Home Daycare Plus Professional Client Installation](#)
[Vantage Time Clock Client Installation](#)

Documentation

[Vantage Time Clock Administrator Guide \(PDF\)](#)
[Vantage Time Clock User Guide \(PDF\)](#)
[Vantage Time Clock Online Administrator Guide](#)

News & Information

2008/09/13

Upsilon Dynamics Releases DataServer technology.

2009/02/20

Vantage Time Clock attendance logistics solution released.

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[License agreement for DATASERVER](#)
 Upsilon Dynamics

Fig 2.0

Users can navigate this page very easily, clicking on any of the links under the “Installers” and “Documentation” section allows the user to download/view and run installations and pieces of documentation. There is also a news section below where administrators can add news and other bulletins.

Common API Access

All client application access the DataServer in the same, uniform way using a proprietary API Library. This library is what allows every application to connect to the server and gain access to all the services it has to offer.

Time Synchronization

The server can serve out the server date and time to keep all client applications in sync. It can also synchronize with Internet Time Servers (NTS).

Security and Compression

The DataServer can be configured to securely transmit all of the information over the network using encryption techniques. This ensures that anyone listening in cannot collect your sensitive information. Data can also be compressed, allowing quicker and more efficient use of bandwidth. Clients must also submit usernames and passwords to access the server.

Data Traceability

The server stores who and when data has been created or updated in each record of every table. These additional system fields are added which store the information; so administrators if so desired can track down who by and when data was changed or created. Figure 3.0 below shows a snapshot of a database record showing the fields.

a_cre_tist	a_upd_tist	a_cre_by	a_upd_by
2.0090131151451E+13	2.0090210E+13	UPSILON-1	UPSILON-1
2.0090131151451E+13	2.0090214E+13	UPSILON-1	UPSILON-1
2.0090131151451E+13	2.0090210E+13	UPSILON-1	UPSILON-1

Fig 3.0

Applications and Usage

- Upsilon Dynamics network enterprise level multi-user applications use the Lite version depending on features required from the server.
- Software companies looking for an easy solution for developing network, license capable applications in a fraction of the time and cost.
- Companies developing in house software, solutions or processes that require network level access or multi user support.

Licensing

Licensing is done on a per application basis, not on a server installation level. Licenses are provided by Upsilon Dynamics and are limited to a single DataServer usage for a single application; licenses are encoded with:

1. The name of the server the DataServer is running on.
2. The number of active unique client connections. This can be defined as a number or unlimited.
3. The application being licensed to use the server.
4. Expiration/Permanency; licenses can be defined as temporary expiring after a given date; or permanent.

Licensing scheme is a floating scheme meaning licenses can be picked up and dropped off as each client connects and disconnects from the server. One license corresponds to a single client connection as opposed to a specific user connection.

If you are a vendor using the DataServer; you will need to provide the users with licenses from us or have them contact Upsilon Dynamics directly for a license as licenses can ONLY be generated and purchased from Upsilon Dynamics.

Technology

Built on Microsoft .NET Technology.

Conclusion

- ✓ HyperXeon is Upsilon Dynamics proprietary dynamic server technology allowing multiple applications to run off of a single application server.
- ✓ The solution consists of a networked application server in combination with connecting client applications using a standard API written specifically for DataServer remote communication.
- ✓ The server provides network access, easy installer and document distribution through the server page, security through encryption and passwords, licensing, flexibility with various commercial database systems, data traceability, date and time synchronization and data compression.
- ✓ The solution comes in a standard server and a Lite server; the Lite of which has a small yet powerful subset of the total server functionality.

System Requirements

- Windows 2000, XP, Server Edition, Vista 32 Bit or Above
- 2GHZ Processor or Above
- 2GB Memory
- 50 GB Memory (Depending on usage patterns)
- Microsoft .NET Framework 2.0
- Microsoft MDAC (Data Access Components)
- ODBC Drivers for additional database systems

Server Administration

Starting and Stopping the Server

Starting

1) If the server is not started yet, look in your programs group for:
Upsilon Dynamics→HyperXeon DataServer Lite→DataServer and click on the shortcut in order to start the application. Once the application has been started you can look in your task tray for figure 1.0 below:



Figure 1.0

2) If the application is already running, right click on the server icon in the lower right hand side of the screen and click on “Console View”, this will show figure 1.1.

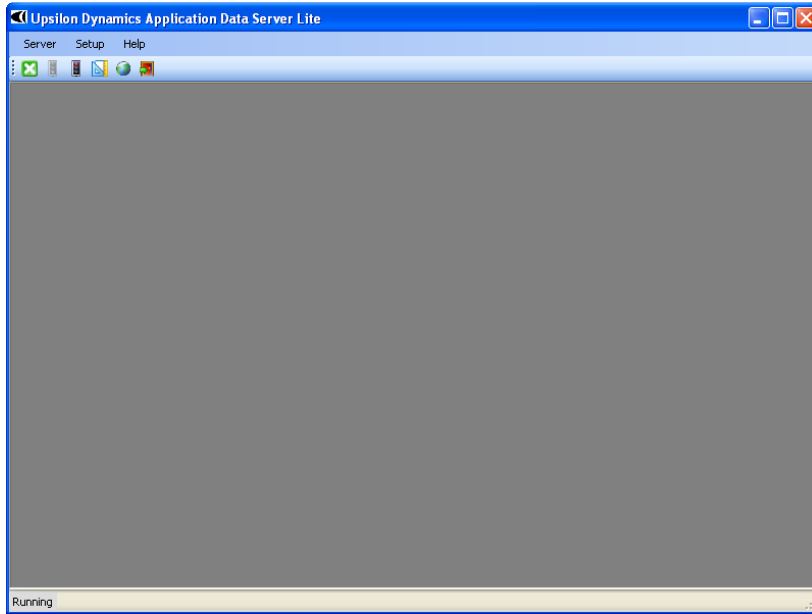


Fig 1.1

The toolbar available appears as:



Fig 1.2

Clicking on the green stop light will start the server.

Stopping

Clicking on the red stop light in figure 1.2 will stop the server.

Shutting Down the Server

Clicking on Server→Shutdown Server will shut the server down; this means the application will actually be closed. Simply stopping the server as shown in the previous step will stop the server from accepting connections only.

Server Configuration File

In the root of the DataServer, there is a configuration file which contains all the configuration information for the server. The file is named “dataserver.ini” and can be found: [SERVER ROOT]dataserver.ini. The only section that should have to be modified directly by administrators is the data profile section which is right at the bottom of the configuration file.

The sections in the configuration file are as follows:

- **Application**
 This section contains information regarding the application itself; currently the only variable stored here is the root path of the server.
- **Server**
 This section contains server vital configuration variables. Most variables here never have to be manually changed simply because they are set using the “Setup→Server Setup” dialog from within the server console view.
- **Authentication**
 This section contains information regarding what clients are allowed to connect to the server.
- **Database**
 This is where data profile information is stored. A data profile correlates to an application.

The chart below explains the purpose of each setting in the configuration file; what section it can be found in and how the value should be formatted.

Section	Setting	Purpose
Application	ApplicationPath	The base bath where the server lies.
Server	ListenPort	The port the server will listen for incoming connections on.
Server	Max_Connections	The maximum number of client connections; not application but individual connections. Default is 500.
Server	Logging_Level	1 = Basic Usage: Will display only critical error messages. 2 = Debugging: Use when trying to debug serious issues with the server.
Server	Timeout	The idle server timeout in milliseconds. Default is 10000.
Server	LogCycle	The size at which the server will automatically cycle the log file in bytes. Default is 1000000 (1MB).

Server	Encryption	Whether or not the server will encrypt incoming and outgoing data (TRUE/FALSE)
Server	Compression	Whether or not the server will compress incoming and outgoing data (TRUE/FALSE)
Server	AuthUser	The DataServer user credential.
Server	AuthPass	The DataServer user password encrypted (DO NOT CHANGE) – only edit in Server Setup dialog.
Server	DateFormat	The global server date format.
Server	TimeFormat	The global server time format.
Server	userLocalTime	If the server is to use the local system time.
Server	useNTSTime	If the server is to poll time and date information from an Internet Time Server.
Server	ntsCombo	The Time Server
Server	updSystemTime	Will update the local system time with time from the NTS Server (if Set – TRUE/FALSE)
Authentication	AuthLevel	Specifies what machines allowed to connect; specify * for all (DEFAULT) or a comma separated list of IP's allowed.
Database	DatabaseCount	# of Data Profiles
Database	DatabaseCodes	Comma separated list of profile names.
Database_[PROFILE]	DatabaseType	A 1-7 numeric code determining the database type. 1:SQLLITE 2:SQLSERVER 3:MYSQL 5:POSTGRESQL 6:SQLEXPRESS 7:ACCESS
Database_[PROFILE]	ProductName	Data Profile code uniquely used when applications

		connect to the server. This code designates a data source and correlates to a single application in most cases.
Database_[PROFILE]	DatabaseFile	OPTIONAL: If applicable (Access/SQLite) the location of the database file. %ApplicationPath% designates the server home path.
Database_[PROFILE]	DatabaseServer	OPTIONAL: For RDBMS databases specify the server name of the database server.
Database_[PROFILE]	DatabasePort	OPTIONAL: The port the database server is running on.
Database_[PROFILE]	DatabaseUser	The username to connect to the database server with.
Database_[PROFILE]	DatabasePass	The password to connect to the database server with.

The Server Log

The Server keeps a log of its activities in the [SERVER ROOT]\log directory and names the active log file as “dataserver.log.” The server supports log cycling meaning once the log reaches a certain size, it will start a new log and rename the existing one with a time stamp in the format of “dataserver[yyyyMMddHHmmss].log”. This helps administrators diagnose and keep the log file to a minimum size.

The log file can be extremely useful when diagnosing problems or reporting problems to Upsilon Dynamics Support.

Server Configuration

From the main server console, go to “Setup→Server Settings” to enter the dialog shown below in figure 1.3.

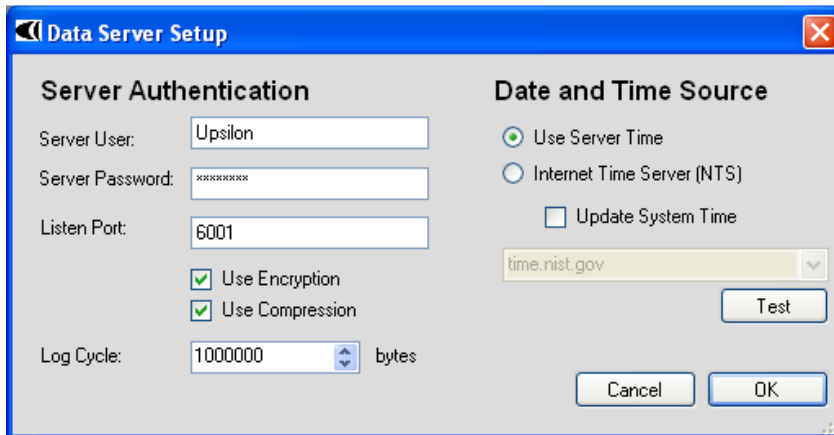


Fig 1.3

The various settings are explained below:

Login Credentials

User and Password are credentials used by clients when connecting to the server. This must be supplied in order for the clients to gain access to the server's facilities.

Log Cycle

Log cycle is the size in bytes at which the system will timestamp and cycle the log file for better archiving and avoiding a giant log file from resulting.

Encryption

If the server will encrypt the data before transmitting it over the network.

Compression

If the server will compress the data before transmitting it over the network.

Internet Time (NTS)

You can specify a valid Internet Time Server here if so desired; if set, the server will pull time and date information off of a time server located on the internet (NTS).

Data Profiles

Data profiles are the pinnacle entities which allow application to connect to their data through the server. A data profile consists of a code which identifies a set of parameters that allow the system to access the data from either a database server or local file archive.

Viewing

All the profiles are stored at the end of the dataserver.ini configuration file. The sections involved are:

Database and Database_[PROFILE]

These are explained in the configuration file table above on page 12. Each Database_[PROFILE] section at the bottom of the configuration file corresponds to a single profile.

Adding

1. Modify the value in the Database section named "DatabaseCount" to be equal to one count higher than the current setting. For example if the setting is:

DatabaseCount =1 then change the value to DatabaseCount=2.

2. Modify the value in the Database section named "DatabaseCodes"; and add the name of the new profile to the end of the list which is comma separated. For example:

DatabaseCodes=ABC, DEF to DatabaseCodes=ABC, DEF, GHI

3. Add a new section below named Database_[PROFILE] where [PROFILE] is the name of your newly created profile; and add the applicable sections for example:

Access or SQLite Database

```
[Database_GHI]
DatabaseType=7
DatabaseFile=%ApplicationPath%\database\usr\GHI_Database.mdb
```

Note: Based on your data source type, you may require the optional ODBC settings; for example if your database type is an SQL Server database you might do the following:

ODBC Style Database

```
[Database_GHI]
DatabaseType=2
DatabaseServer=mssqlsvr01
DatabasePort=1433
```

**DatabaseName=GHI_Database
DatabaseUser=sqlsvruser
DatabasePass=sqlsvrpass**

Note: Ensure that the database has already been created and a user has already been created with read and write access to the database. Also, the ability to create tables and schema will also have to be enabled for the system to create the database.

Removing

1. Modify the value in the Database section named "DatabaseCount" to be equal to one count less than the current setting. For example if the setting is:

DatabaseCount =2 then change the value to DatabaseCount=1

2. Modify the value in the Database section named "DatabaseCodes"; and remove the name of the new profile you wish to remove.


DatabaseCodes=ABC, DEF, GHI to DatabaseCodes=ABC, DEF

3. Remove the section below named Database_[PROFILE] where [PROFILE] is the name of your newly created profile.

Licensing

The DataServer makes use of proprietary encoded license files. Follow the instructions below to install a new license file.

Installing or Updating a License

1. Once the license file has been received simply place the file with extension .reg in the [SERVER ROOT]\data\reg directory. If you are upgrading, simply overwrite the existing .reg file.
2. Shutdown the server completely and start it back up again.
3. Navigate to the server home page by clicking on the web view icon () in the toolbar. The license information will be shown to the right if it has been successfully installed.

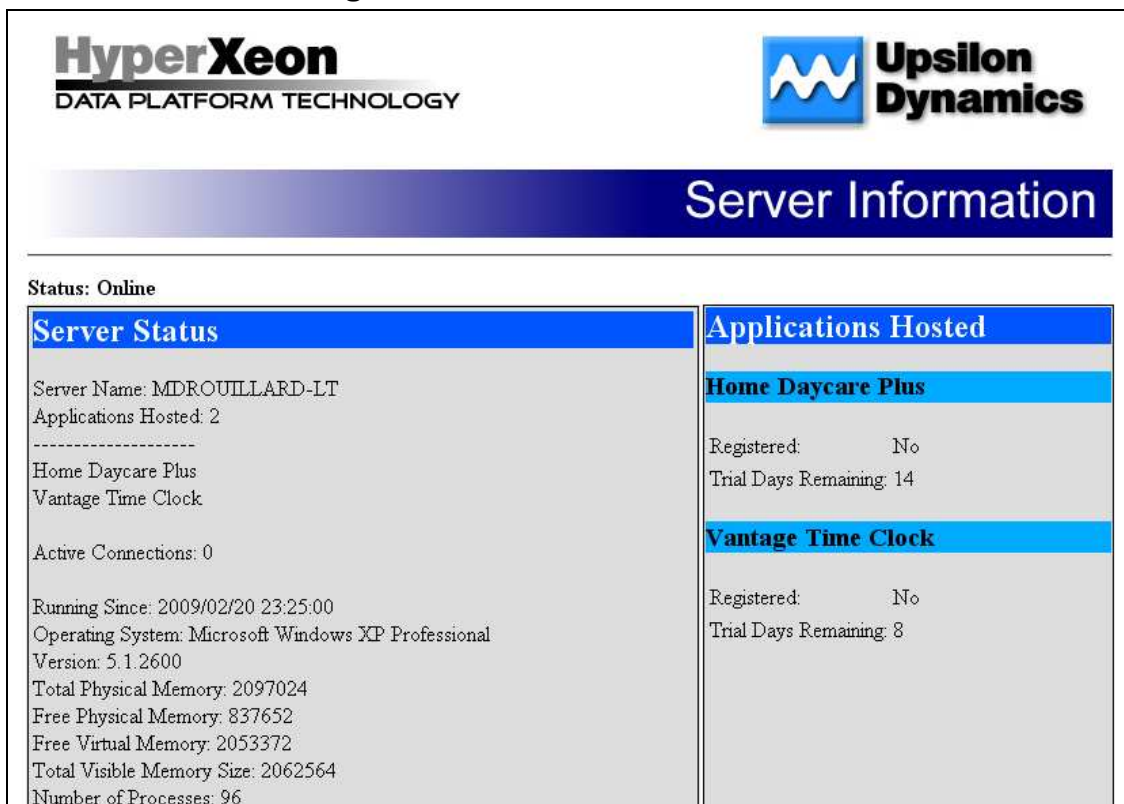
Removing a License

To remove a license, simply remove the .reg file from the [SERVER ROOT]\datareg directory.

Web

The DataServer has integrated web capabilities. This is done primarily through the server home page. Once the server is up and running, anyone on the network can navigate to the home page by opening up `http://[servername]:[port]`.

The Server Home Page



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Server Information

Status: Online

Server Status	Applications Hosted
Server Name: MDROUILLARD-LT Applications Hosted: 2 ----- Home Daycare Plus Vantage Time Clock Active Connections: 0 Running Since: 2009/02/20 23:25:00 Operating System: Microsoft Windows XP Professional Version: 5.1.2600 Total Physical Memory: 2097024 Free Physical Memory: 837652 Free Virtual Memory: 2053372 Total Visible Memory Size: 2062564 Number of Processes: 96	Home Daycare Plus Registered: No Trial Days Remaining: 14 Vantage Time Clock Registered: No Trial Days Remaining: 8

Figure 1.4

Server status information can be found on the left, all application specific including license and trial information is located to the right of the screen.

Installers and Downloads

There is an installer and downloads section at the bottom of the home page which allows users to access installers easily from any web browser on the network. These files are stored in the [SERVER ROOT]\web\install directory.

Installers

[Home Daycare Plus Professional Client Installation](#)
[Vantage Time Clock Client Installation](#)

Figure 1.5

The install.properties file is a file in the same directory, opening the file will contain lines corresponding to each downloadable file along with a description as follows:

```
#Install List  
File Description Here;File Name Here
```

Adding and removing entries is easily done by editing the properties file. The effects will be shown immediate on the home page.

Documentation

There is a documents section at the bottom of the home page which allows users to access installers easily from any web browser on the network. These files are stored in the [SERVER ROOT]\web\doc directory.

Documentation

[Vantage Time Clock Administrator Guide \(PDF\)](#)
[Vantage Time Clock User Guide \(PDF\)](#)
[Vantage Time Clock Online Administrator Guide](#)

Figure 1.6

The doc.properties file is a file in the same directory, opening the file will contain lines corresponding to each downloadable file along with a description as follows:

```
#Documents Properties  
Description Here;FileName Here
```

Adding and removing entries is easily done by editing the properties file. The effects will be shown immediate on the home page.

News

In the [SERVER ROOT]\web directory there is a file called news.html; editing this file will allow you to place news and information on the home page.

News & Information

2008/09/13

Upsilon Dynamics Releases DataServer technology.

2009/02/20

Vantage Time Clock attendance logistics solution released.

As a Web Server

The DataServer can also function as a rudimentary web server for whatever purpose you may have. You can create sub paths inside the [SERVER ROOT]\web directory and directing your web browser to [http://\[servername\]:port/path](http://[servername]:port/path) will display whatever html files you place there. We recommend this to be used as an internal support or content related web site for DataServer application specific information.

Data Definition Files (DDF)

The Data Definition File or DDF file is a proprietary file format designed to deliver database schema information and data for initial database creation and upgrades. Any DDF files picked up in the [SERVER ROOT]\data\ddf directory is automatically read into the system and applied to the data profile specified in the DDF file itself.

DDF files are often used in the event of upgrades or when an application is first installed on the server and provides a powerful way for database creation without the use of messy scripts and other processes.

DDF files can be authored and created only using specialized tools available from Upsilon Dynamics. If you feel you need to author DDF files either for your own software development efforts or other purposes please contact Upsilon Dynamics Support at support@upsilon-dynamics.com.

Support and Contact

Upsilon Dynamics Support is there to help you with any issues you may encounter with your software; if you cannot find the help you need in this guide, either contact your sales representative or trainer; or contact our support crew by emailing support@upsilon-dynamics.com or visiting us at www.upsilon-dynamics.com.