3 Guide to Hyperview in a Browser

This User Guide is only partially complete. Chapters after **Managing User Accounts** still to be included.

3.1 Hyperview in a Browser

3.1.1 Overview

Hyperview in a Browser is a new version of Hyperview that allows you to access basic Hyperview functionality in a web browser, with a touch-friendly interface suitable for tablets.

If you have wifi in your environment, use Hyperview in a Browser on a tablet for the following:

- Monitor configuration and values during commissioning and checkout.
- Use Hyperview on a tablet as a mobile maintenance and troubleshooting tool. Verify the field functionality against the running configuration.
- During installation checkout, verify wiring against drawings on the tablet.

and as a general tool to keep DBDOC and access to live data close by.

3.1.2 Platform/Browser compatibility

Hyperview in a Browser has been tested in Edge, Chrome, Safari and Firefox, and should work in versions of these browsers dating back to October 2017. In order to use **Hyperview in a Browser**, you just go to a certain website (and, if logins are required, log into your **Hyperview in a Browser** account). A subset of **Hyperview** functionality is supported in **Hyperview in a Browser**, including basic navigation, live data, full text and title search, and more.

Below you can see **Hyperview in a Browser** running in an Edge web browser.
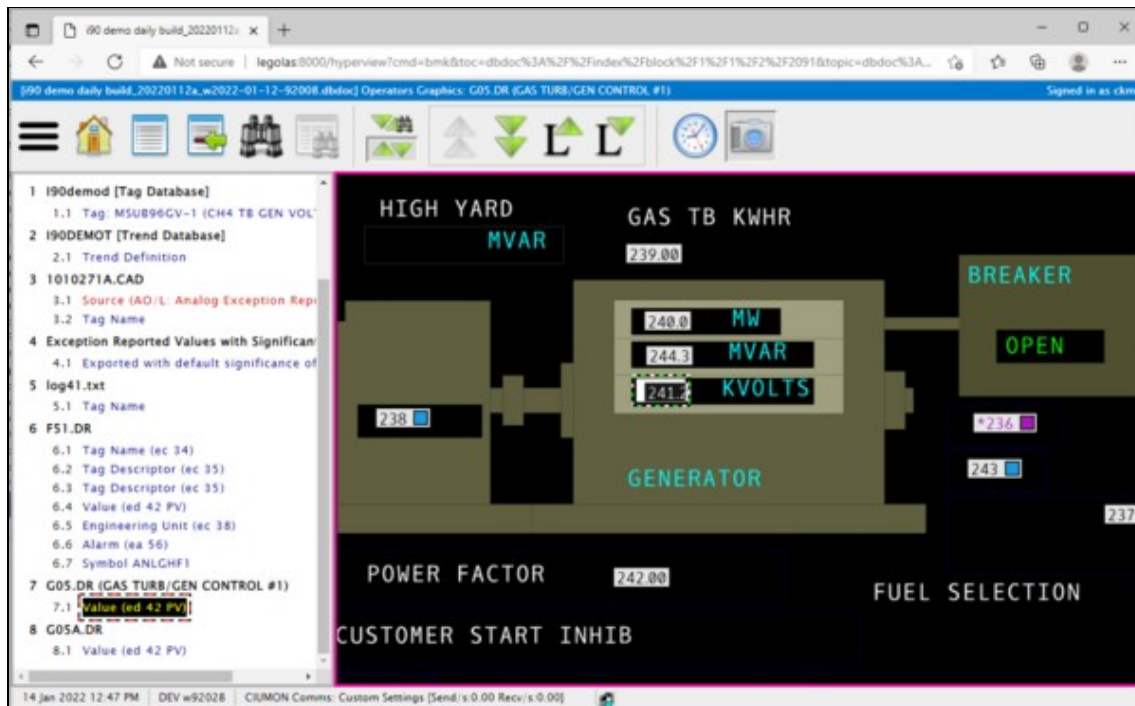
3.1.3 Setting up a Hyperview Service

In order to use Hyperview in a Browser, you must use the Hyperview Service Controller to start a Hyperview Service.

3.1.4 Managing user accounts

An account is required to access a Hyperview website. Learn more making and managing Hyperview in a Browser accounts.

3.2 Setting up a Hyperview Service

3.2.1 Overview

As of DBDOC 11.3, it is possible to enjoy basic Hyperview functionality in a standard web browser. How it works is that the Hyperview application (hyperview.exe) can be run as a service, and in this mode, it runs an embedded web server. This "Hyperview Service" loads a project file, and serves it as a web application. From the point of view of the user with the web browser, Hyperview is a website.

A new application, **Hyperview Service Controller** is required to run Hyperview as a service. Using Hyperview Service Controller, you can specify which Hyperview executable to run as a service, which project file to serve, what port to serve the project file on, and various other configuration details. Note that you must have administrator privileges in order to run services with Hyperview Service Controller.

The Hyperview website is only available on a specified port of a specified machine if suitable firewall accommodations have been made. Generally it would only be available inside a network, not to the outside world.

Running the Hyperview Service Controller

In order to create a Hyperview Service, you must run the **Hyperview Service Controller**. The Hyperview Service Controller can be found in the Programs folder of a DBDOC 11.3 or later installation (HyperviewServiceController.exe). Running Hyperview Service Controller with full functionality requires administrator privileges.

Configuring your Hyperview Services setup

Before you can create a Hyperview Service, you must set up a few things that will apply to all the services. Press **Setup** on the main interface of the Hyperview Service Controller. This brings up the **Configure Hyperview Services** dialog.

Adding a new Hyperview Service

To add a Hyperview Service, press **Add Service...** in the main window of the Hyperview Service Controller. This will bring up the **Add a Hyperview Service** dialog.

3.2.2 Running the Hyperview Service Controller

The **Hyperview Service Controller** can be found in the Programs folder of a DBDOC 11.3 or later installation. It is called **HyperviewServiceController.exe**. Running Hyperview Service Controller with full functionality requires administrator privileges.

Note: Hyperview Services should be run on the same machine as the project files they are serving. The Hyperview Service Controller will need to be run on this same machine too. This may mean that you run Hyperview Service Controller on your build machine, where there is local access to project files, or it may mean that you run it on the machine with the shared folder that your project files are copied to.

When the Hyperview Service Controller is first started, it will look like this:
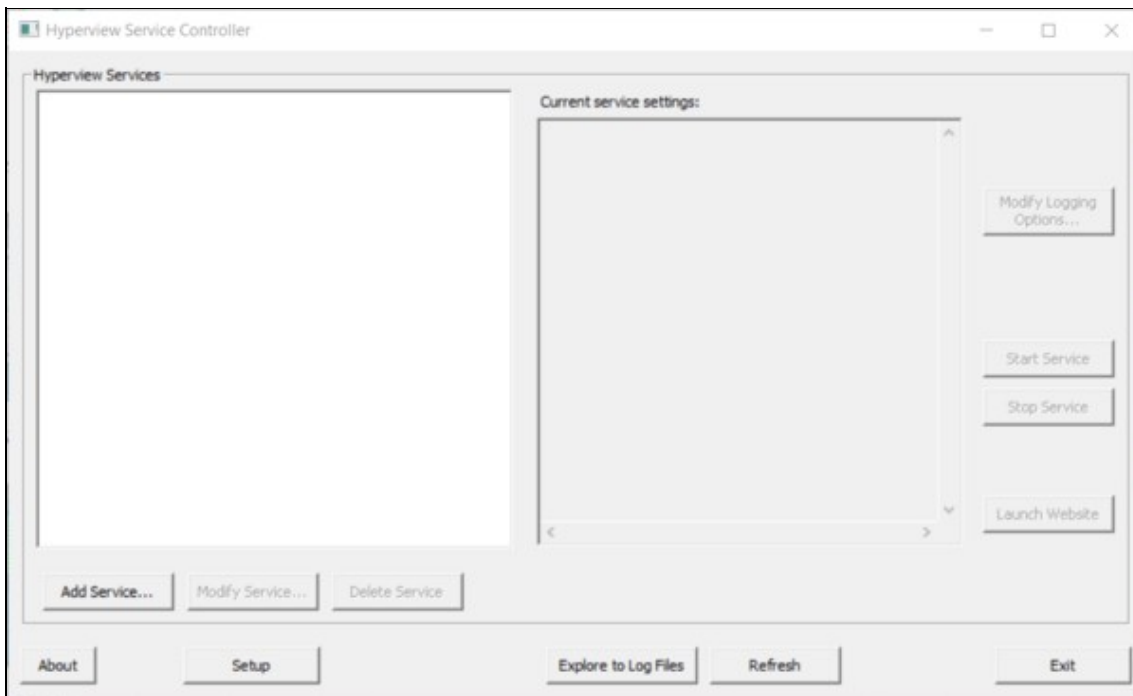
When services have been defined, they are listed in on the left.
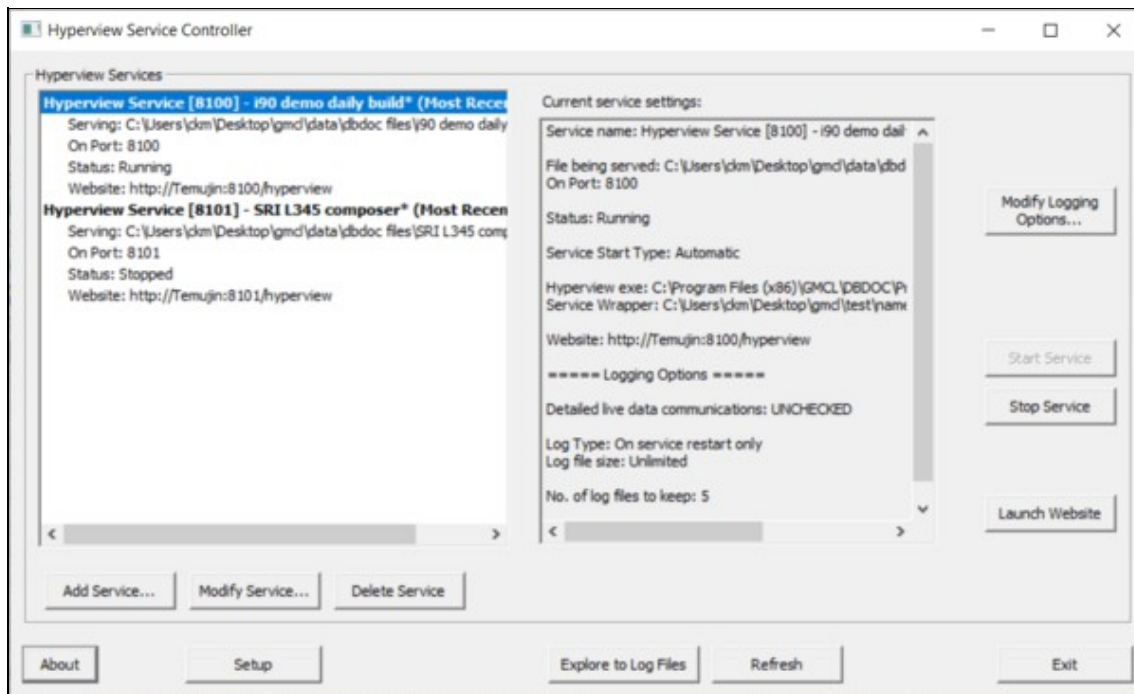
You can create new services, modify existing services, start and stop services, and delete services. By default, once created, services will automatically restart when the machine they are on is rebooted, so you only need to start a service once. Each Hyperview Service will serve exactly one project file, which you must specify. You can, however, specify the project file name with wildcards in the same manner as on the command line, in order to server the most recent build of that project.
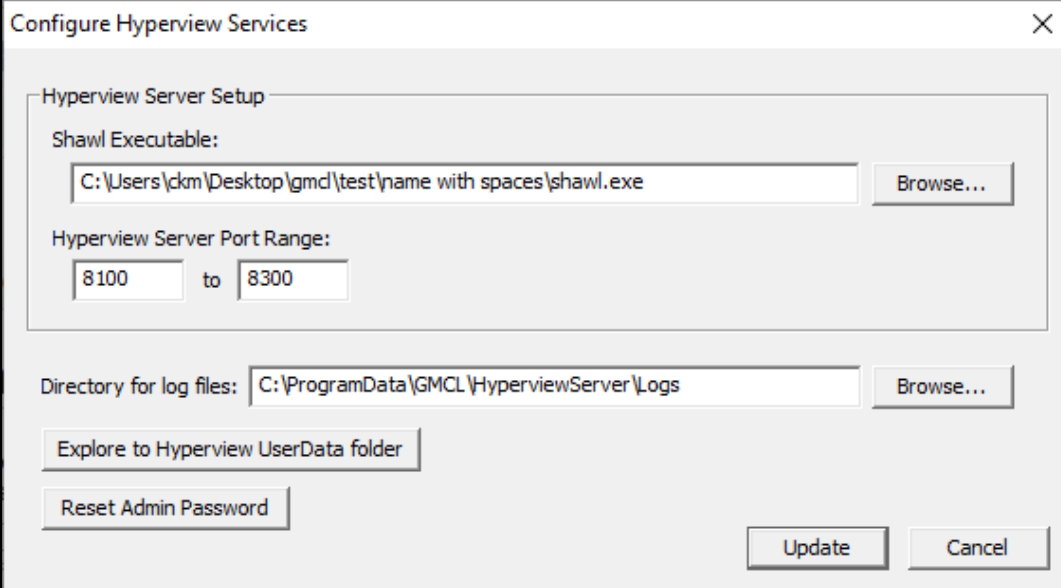
Note: Even if you use "*" to denote the most recent build, the Hyperview Service must still be restarted in order to actually load the newest project file. It will not automatically detect that a new matching project file has appeared.

- **Hyperview Services:** A list of currently configured Hyperview Services.
- **Add Service...**: Opens a dialog for creating a new Hyperview Service.
- **Modify Service...**: Opens a dialog for modifying the currently selected service in the **Hyperview Services** list.
- **Current service settings:** Shows configuration details for the currently selected service in the **Hyperview Services** list.
- **Modify Logging Options...**: Opens a dialog for configuring logging settings for the currently selected service.
- **Start Service**: Starts the currently selected service.
- **Stop Service**: Stops the currently selected service.
- **Launch Website**: Launches a browser showing the Hyperview website for the currently selected service.
- **About**: Shows version information for this Hyperview Service Controller.
- **Setup**: Opens the **Configure Hyperview Services** dialog for general setup that pertains to all services.
- **Explore to Log Files**: Opens the folder containing Hyperview Service Controller and Hyperview Service logs.
- **Refresh**: Refreshes the **Hyperview Services** list.

3.2.3 Configuring your Hyperview Services setup

3.2.3.1 General setup for all Hyperview Services

Before you can create a Hyperview Service, you must set up a few things. Press **Setup** on the main interface of the **Hyperview Service Controller**. The following dialog appears:

3.2.3.1.1 Hyperview server setup

The following two items need to be set appropriately in order to create Hyperview Services.

- **Shawl Executable:** This is a wrapper application that allows Desktop Hyperview to run as a service. It should be located in your DBDOC Programs folder. Make sure that the proper path to shawl.exe is specified here.
- **Hyperview Server Port Range:** This is where you specify the ports that a Hyperview Service can use. You can choose one port, or a range of ports. Each service can only serve one project file on one port, so if you want to serve more than one project file simultaneously, more than one port should be specified in the range here.

 Note: The ports specified here constrain where **Hyperview Service Controller** can put Hyperview services. However, you will additionally need to make appropriate holes in your machine's firewall for the ports specified here -- this is not done automatically.
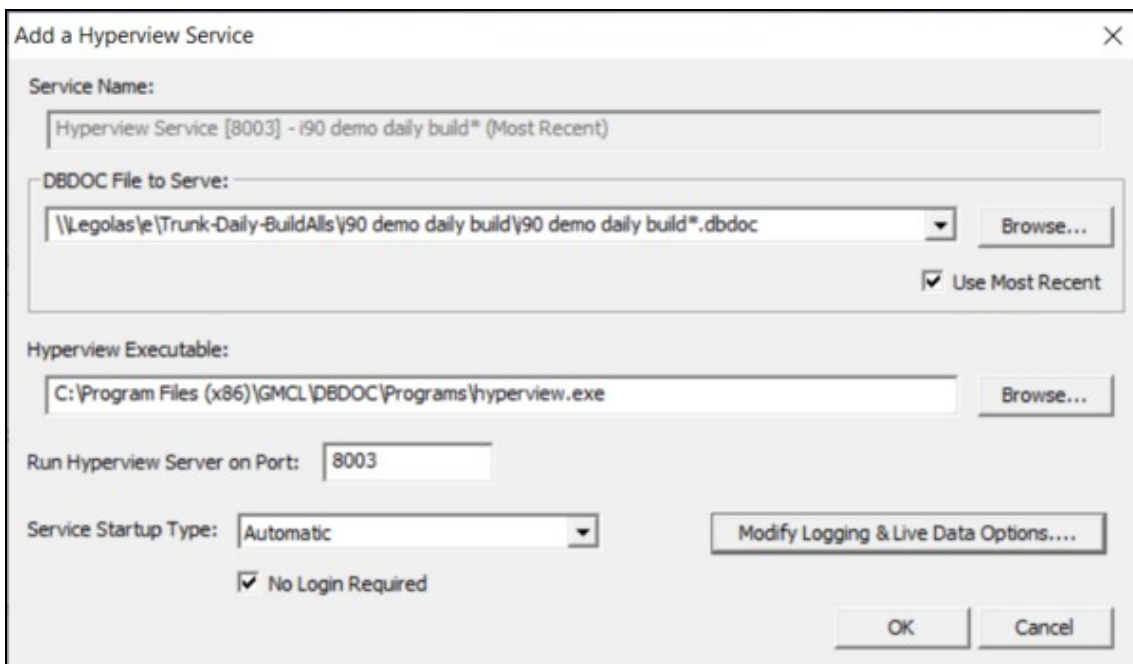
3.2.3.1.2 Other setup information

- **Directory for log files:** This is where you will find Hyperview Service log files. You can specify a different location if you wish.
- **Explore to Hyperview UserData Folder:** When Hyperview is running as a service, it stores its datafiles in this location. This location is analogous to the user data folder used by Desktop Hyperview (usually `C:\Users\<user_logon>\AppData\Roaming\GMCL\DBDOC` for desktop users), but stores information for all the users connected to a particular Hyperview Service.

- **Reset Admin Password:** Revert the Administrator password to its installation setting. When you view the Hyperview website (**Hyperview in a Browser**), there will be a login. There is a preset Administrator account with an installation password. Once logged in, the Administrator user will be able to change the Administrator password, and create other user accounts via the **Hyperview in a Browser** interface. If the Administrator password is lost, it can be reset to the initial installation password here. Please contact GMCL for the reset installation Administrator password.

3.2.4 Adding or modifying a Hyperview Service

In order to add a new Hyperview Service, press **Add Service...** on the main interface of the **Hyperview Service Controller**. The following dialog appears:

In order to add a service, you must specify a project file to serve, a Hyperview executable to run as a service, and the port on which the project file is to be served by the service.

- **Service Name:** This is the name that will be given to the service. You will be able to see it in (for example), the Windows **Services** utility. The name is automatically generated from the project filename and port that you choose.
- **DBDOC File to Serve:** This is the project file that is to be served by the Hyperview Service. Note that in general, the project file must be on the same machine as the Hyperview Service (i.e. the machine you are currently on). There are usually restrictions on allowing the **Local System** user (the virtual user that runs services) from accessing network filesystems. Moreover, for best performance, it makes sense to have only one network hop (the one between Hyperview in a Browser and the Hyperview Service) in the system.
- **Use Most Recent**: If you check this box, this service will serve the most recent DBDOC build for the specified project. You should check this box if you build new project files regularly, and want to be serving the most recent one. Note that the Hyperview Service will need to be restarted in order to load up the newest project file. There is a command line interface for doing this, if you wish to incorporate it into your regular build process.
- **Hyperview Executable:** This is the hyperview executable that will be acting as a service. A hyperview.exe from at least DBDOC 11.3 is required.
- **Service Startup Type:** These are the options as to how the service should be handled when the machine restarts. The default, **Automatic**, causes the service to be automatically restarted if the machine reboots. **Manual** would mean that the service would not be automatically restarted -- you would need to restart it explicitly from the Hyperview Service Controller. **Disabled** means that the service cannot be started. There should be little reason to choose anything but **Automatic** here.
- **No Login Required:** If this is checked (the default), then there is no login required to view a Hyperview page served by the Hyperview service. An account based on IP is automatically created, and used to keep track of things like whether Specs are shown, which are particular to each user. This **No Login Required** mode is convenient, because it allows links to particular Hyperview "web pages" to be shared and used generally within a particular network context. If **No Login Required** is not checked, then users must log in with username and password in order to view Hyperview pages.

3.2.5 Starting and stopping Hyperview Services from the command line

Although generally Hyperview Services are managed with the Hyperview Service Controller, it is possible to start and stop Hyperview Services from the command line. This would be useful if you had a Hyperview Service configured to load and serve a "most recent" project file. If a new matching file appeared, the Hyperview Service would not notice. It would need to be stopped and restarted in order to load the updated build.

With the command line interface, you can include a script in your build routine that automatically restarts some or all of your Hyperview Services, causing them to load the most recent project file, if they were configured that way.

3.2.5.1 Command Line

To start or stop Hyperview Services, use this command:

```
"C:\Program Files (x86)\GMCL\DBDOC\Programs\HyperviewServiceController.exe" /servicecmd=[cmd<:port>]
```

where **cmd** can have the following values:

- **start**: Starts all the Hyperview Services that have been created. If a service is already running, has no effect.
- **start:N**: Starts the Hyperview Service running on port N (assuming it exists).
- **stop**: Stops all the Hyperview Services that have been created. If a service is already stopped, has no effect. Note that stopping a service may not be instantaneous. It may take 30 seconds or so.
- **start:N**: Stops the Hyperview Service running on port N (assuming it exists).

You must run the script with Administrator privilege in order to be able to control Hyperview Services in this way.

3.2.5.2 Example

For example, if you wanted to automatically stop and restart all your Hyperview Services, a sequence of commands like the following could be used.

```
"C:\Program Files (x86)\GMCL\DBDOC\Programs\HyperviewServiceController.exe" /servicecmd=stop
[WAIT 30 SECONDS]
"C:\Program Files (x86)\GMCL\DBDOC\Programs\HyperviewServiceController.exe" /servicecmd=start
```

Or perhaps only one service on a known port requires this treatment. If the service question was running on port 8001 (run the Hyperview Service Controller to find the port), these commands could be used.

```
"C:\Program Files (x86)\GMCL\DBDOC\Programs\HyperviewServiceController.exe" /servicecmd=stop:8001
[WAIT 30 SECONDS]
"C:\Program Files (x86)\GMCL\DBDOC\Programs\HyperviewServiceController.exe" /servicecmd=start:8001
```

3.2.6 Accessing Hyperview Services through a firewall

As of DBDOC 11.3, you can run Hyperview as a service. This Hyperview Service behaves as a web server, and serves a specified project file on a specified port. This port will not be accessible to web browsers on other machines unless it is unblocked for TCP communication. For example, if your Hyperview Service is running on port 8001, you would need to make sure there was a hole in the firewall for port 8001.

Hyperview Services access live data in exactly the same manner as desktop Hyperview, i.e. by connecting to a CIUMon. The CIUMon that a Hyperview Service will connect to must be specified in the project file that it is serving, and must be accessible to the machine that it is running on.

3.2.7 Managing Hyperview Service log files

3.2.7.1 Log file location

In the **Hyperview Service Controller**, click on **Explore to Log Files** to explore to the folder where log files for Hyperview Service Controller, and also for individual Hyperview Services are kept.

You can change this location in the **Configure Hyperview Services** dialog.

3.2.7.2 Log file names

The Hyperview Service Controller log is called

```
HyperviewServiceController_<date>.log.
```

Hyperview Service logs are given a unique name based on the project the service is service, the port it is serving it on, and the date and time:

```
<project>_<port>_HyperviewServer_<date>-
```

For example,

Test project_8888_HyperviewServer_2022-01-17-16-20-26.log

3.2.7.3 Logging options

3.2.7.3.1 Hyperview Service Controller logs

The log for the Hyperview Service Controller has no optional settings. One new log starts on each day that Hyperview Service Controller runs.

3.2.7.3.2 Hyperview Service logs

You can choose logging options for Hyperview Services by clicking on **Modify Logging Options...** in the main Hyperview Service Controller window, or in the dialog for adding or modifying a Hyperview Service. The options shown will apply to the currently selected Hyperview Service (in the **Hyperview Services** list).

The options for each service are specified individually. So, for example, you could have a debugging Hyperview Service that logged all data communications, and a regular service that did not.
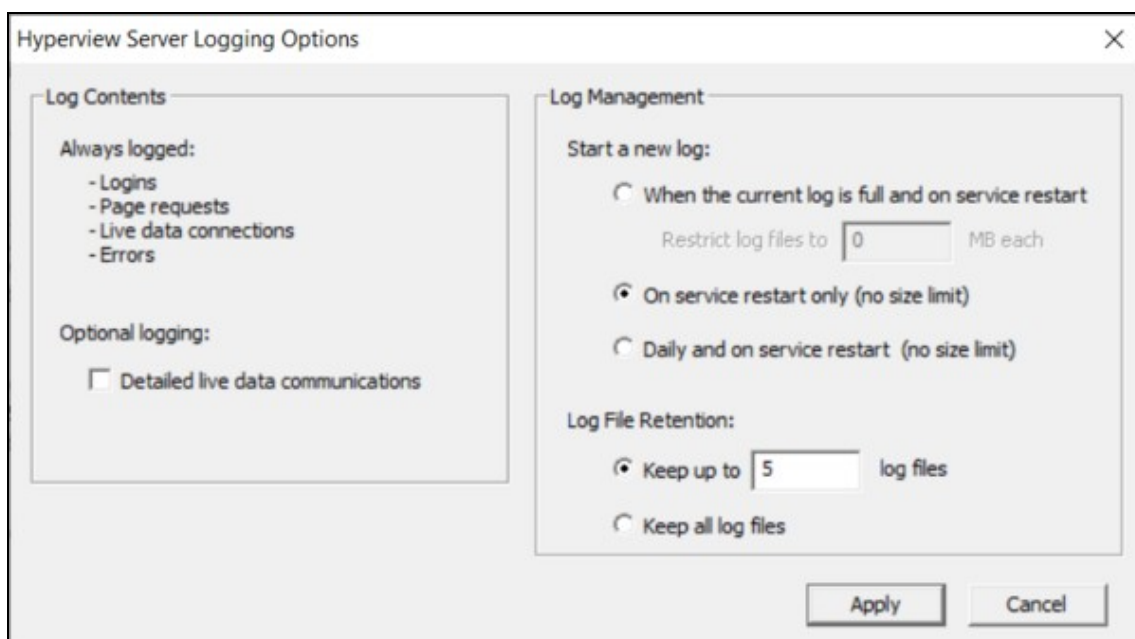
Log Contents

By default, most Hyperview Service activities, such as logins, page requests, making and breaking live data connections, and errors are logged.

Optional logging

- **Detailed live data communications**: Check this box if you want all data communications between a Hyperview Service and CIUMon to be logged. Be default, only connection status change and periodic status updates are logged.

Log Management You have several options about when new Hyperview Service logs should be started.

Start a new log

- **When the current log is full and on service restart**: This mode will only create a new log file when the Hyperview Service is restarted, unless a maximum size has been reached, in which case a new log file will be created sooner.
    - ♦ **Restrict log files to N MB each**: Specify the maximum log file size here.
- **On service restart only (no size limit)**: A new log file will be created only when a Hyperview Service is restarted. This is probably not a mode to use if **Detailed live data communications** is checked.
- **Daily and on service restart (no size limit)**: A new log file will be created every day, as well as when a Hyperview Service is restarted.

Log File Retention

- **Keep up to N log files**: Specify how many log files to keep. Especially if a new log file is being started daily, you may want to prevent hundreds of files from being created over time. If the limit is exceeded, the oldest log file will be automatically deleted.
- **Keep all log files**: If this is specified, no log files will be automatically deleted.

3.2.8 Finding Hyperview Service user data files

Like desktop Hyperview, Hyperview Services keep a number of data files. You can explore to them by clicking on **Explore to Hyperview UserData folder** in the Configure Hyperview Services dialog. In general there should be no call to look at these files.

The exact folder where the data files are located depends on the operating system, but on Windows 10, for example, it is

```
C:\Windows\SysWOW64\config\systemprofile\AppData\Roaming\GMCL\DBDOC
```

In this folder are data files associated with Hyperview Services on this machine. For example, the users.db file contains account information for all the user accounts for the Hyperview Services on this machine.

Information related to individual users of a Hyperview Service are located in the `DBDOC\UserData` folder, in `<username>` subfolders. For example, the home page for each user and project is stored there.

3.3 Managing user accounts

3.3.1 User accounts

Hyperview in a Browser comes with a default Administrator account with username **admin**. The "admin user" can add new accounts. Regular users can update their passwords, but cannot add new accounts.

To obtain the default password to the Administrator account, please contact GMCL.

For more information see:

3.3.1.1 User actions

- Logging in to your Hyperview in a Browser account
- Changing your password

3.3.1.2 Administrator actions

- Creating, modifying, and deleting user accounts
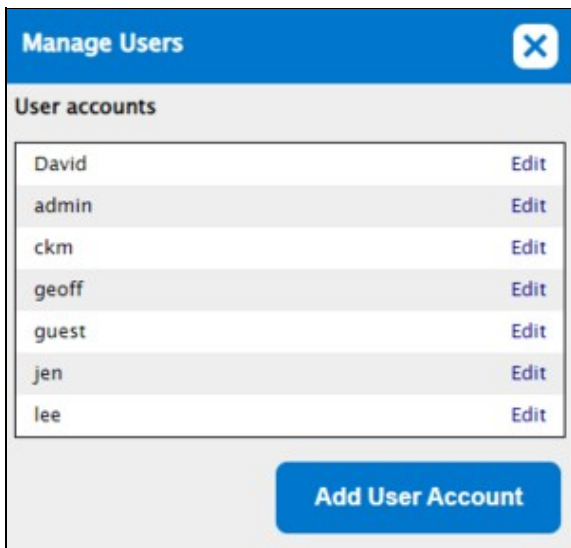- Resetting the Administrator password

The user accounts apply to all Hyperview Services running on a machine. If there are multiple Hyperview Services serving different DBDOC files as different "websites", for example, the same set of users will be able to log into all of them.

3.3.2 Creating, modifying, and deleting user accounts

On the **Admin** menu of Hyperview in a Browser, click **Manage Users**.

Note: Only the Administrator user will see the **Admin** menu.

A panel appears listing all the users who have Hyperview in a Browser accounts (the account file is stored with other Hyperview Service user data files).

- **Edit**: Opens an interface for modifying or deleting the user account. The user password can be changed this way.
- **Add User Account**: Opens an interface for adding a new user account.

3.3.3 Resetting the Administrator password

Only the Administrator user can create new user accounts and change user passwords. To do so, log into Hyperview in a Browser with username **admin** and the Administrator password. If the Administrator password has been lost, it can be reset via the **Configure Hyperview Services** dialog of the Hyperview Service Controller.