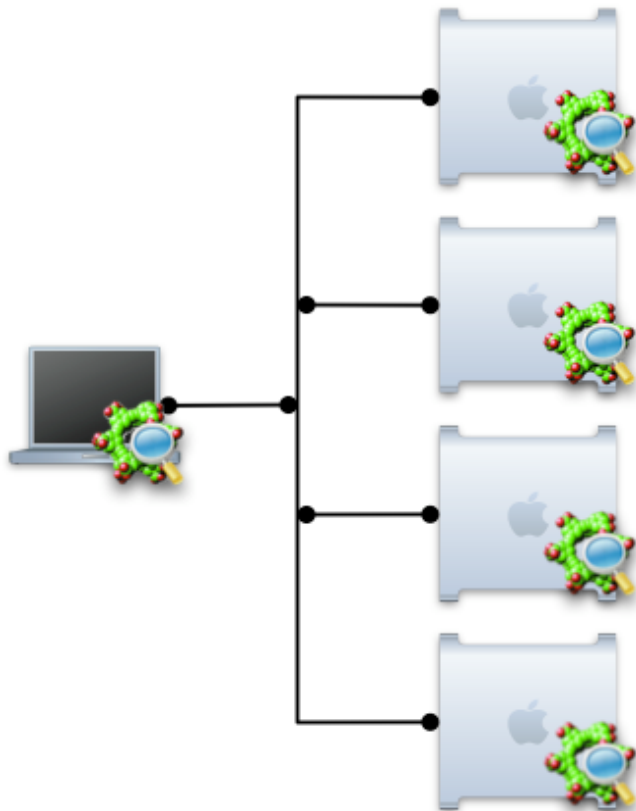# FoldingObserver

What is FoldingObserver?

You are donating CPU- cycles to the Folding@Home project - on more than one computer at the same time? FoldingObserver is right for you to keep track on the progress of your clients!

FoldingObserver gives you a simple possibility to monitor your Folding@Home clients within your network. You can keep track of lots of details of your clients.

Details on Folding@Home can be found here:
<http://www.stanford.edu/group/pandegroup/folding/>

So, how does FoldingObserver work? FoldingObserver monitors the Folding@Home log- files regularly. From the informations out of these files, it is possible to process additional data. Afterwards, FoldingObserver transmits its collected data throughout your network to all connected computers. Each computer gets the same data, thus all computers stay up-to-date at any time. For you it is possible to check the progress of all clients on any computer. Folding@Home does not need to be running on all computers for this.

FoldingObserver can be used to monitor your clients from a single laptop.

FoldingObserver can be defined as startup object in such a way that only the icon will be visible in the dock. All further activities run without notice in the background. In this Mode FoldingObserver minimizes the processor- load.

A small list of features and functions:

Folding Observer ...

- can monitor an unlimited amount of Folding@Home clients.
- displays all data inside a single, configurable window.
- lets you select what data you want to keep track of.
- is able to automatically hide the main window in the background to minimize system-load.
- shows additional Details for each Folding@Home client.
- nearly no installation necessarry. It can search for your Folding@Home clients and start to monitor them automatically. The communication to other FoldingObserver within your network shoult work right away.
- offers a 'Checkpoint'- function to keep track of the progress within a certain time - e.g. over night.
- is able to colorize the main- lists items so you can easily see the status of your clients.

Installation

After the download there will be a disk-image which, depending on the settings in your browser, will already be mounted on your desktop. Simply copy the enclosed FoldingObserver-application to your harddisk.

Using FoldingObserver

FoldingObserver monitors the status of your Folding@Home clients trough the log- files created by Folding@Home. Therefore it is necessary to point FoldingObserver to the location of the folder (s) of your client(s). At the first start of FoldingObserver you will be asked to do so automatically, later you can do this conveniently from the preferences.
The details of your clients will be sent trough your network to all other FoldingObserver applications. By this you can monitor the status of all your Folding@Home clients from every computer.
Of course you do not need to set a client if you only want to monitor other clients on your network from one computer.

Preferences: Settings

Group: Simply add your computer to different color- groups to keep them grouped and easily track them.

Hide main window on deactivation: If selected, the main window will automatically be hidden if the application is not frontmost.

Hide main window on startup: Use this setting to start FoldingObserver in the background without showing the overview window. This is especially usefull if you set FoldingObserver to start automatically during startup of your computer (as startobject). Of course, your clients will be monitored and the data will be transmitted. Prefer this option to the "hide" setting inside the startup object settings. In this mode FoldingObserver will minimize the prozessor load.

Show progress in Dock icon: Will display the progress of your local clients with ID 1 and ID 2 (usually CPU 1 and CPU 2, if available) inside the dock- icon.

Preferences: Clients

Scan: To have FoldingObserver scan a volume automatically for Folding@Home clients, select the volume from the List and klick "Scan".

Add manually...: To add a Folding@Home client to the list of monitored clients klick this button and select the location.

Remove: To remove a client and stop monitoring it, select the client from the list and klick "Remove".

Preferences: Connection settings

These settings affect the way data is sent to other FoldingObserver applications through your network.

Send actual status every ... Minute(s): Select the time interval for the actual status being transmitted.

UDP Router Hops: Specifies through how many routers the sent data will travel before they will be deleted. Remark: If a router does not support multicasting, the data will be deleted immediately.
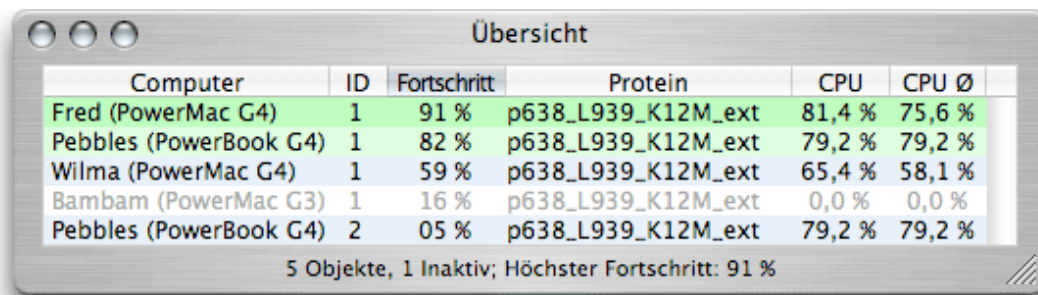
Request lost/defect packets again: UDP- connection are, other than TCP/IP, a "connectionless" data transmission. So, data packets can be lost or damaged on the way to the recepients. If this option is selected, defect/lost data packets will be requested again. Remark: Because it is not possible to determine the source of the defect data packet, the actual data of all clients will be requested. On unreliable networks or with many clients involved this will increase the network load.

UDP- Connection on Port: Specify the port through which the FoldingObserver- applications connect over your network. On MacOS X the application need root rights to use ports < 1024. All FoldingObserver- applications have to use the same port to exchange data.

UDP- Multicast group: All FoldingObserver- applications communicate through multicasting to a specific "Multicast Group". Select your desired group here. You can specify groups in the range of 224.0.0.0 to 239.255.255.255. All FoldingObserver- applications have to use the same Multicast- group to exchange data.

Overview

The overview window shows all your clients in your network. By double clicking on a line or by selecting "Show details..." from the menu you can show all informations for this client.

Computer	ID	Fortschritt	Protein	CPU	CPU Ø
Fred (PowerMac G4)	1	91 %	p638_L939_K12M_ext	81,4 %	75,6 %
Pebbles (PowerBook G4)	1	82 %	p638_L939_K12M_ext	79,2 %	79,2 %
Wilma (PowerMac G4)	1	59 %	p638_L939_K12M_ext	65,4 %	58,1 %
Bambam (PowerMac G3)	1	16 %	p638_L939_K12M_ext	0,0 %	0,0 %
Pebbles (PowerBook G4)	2	05 %	p638_L939_K12M_ext	79,2 %	79,2 %

5 Objekte, 1 Inaktiv; Höchster Fortschritt: 91 %

FoldingObservers main window

Inactive clients will be shown in gray. The Info window will show you in detail why a clients is inactive. By selecting "Display- options..." from the menu, you can specify the displayed data:

Group: Shows the color- groups you specified for your clients.

Computer- Names: Displays the name of the computer as it was specified inside the "Sharing"- control panel.

IP-Adress: The IP Adress of the computer.

Client- Machine ID: On multi-CPU systems, every Folding@Home clients has to have a unique 'machine ID' (1 to 8). This option shows this ID.

User: Shows your Folding@Home username.

Team Number: Shows your Folding@Home team.

Progress: Shows the current progress of your clients. If you have set a checkpoint, this field will also display the progress since the checkpoint.

Time per percent: Shows the average time necessary to process one percent. Please take into account that Folding@Home will need to process at least one percent to calculate this value. If FoldingObserver was started during a calculation, this value will not be accurate in first place, but will become more and more acurate as more progress is being done.

Remaining Time: Based on the "time per percent", FoldingObserver will calculate the remaining time until the current protein is finished. If the CPU load changes during future processing, this value will be inacurate.

Protein: Shows the name of the protein, your client is currently working on.

Start- date: Shows the date on which the work on this protein has begun.

Due- date: Shows the deadline on which the work on this protein has to be finished.

Date of last update: Shows date and time when the last data was received fromt this client.

Last CPU- usage: Shows the last CPU usage of the Folding@Home client. The CPU- usage is checked approximately three times per minute.

Average CPU usage: Shows the CPU usage averaged since FoldingObserver was started on this client computer.

Date and Time: Select the format for Date and Time informations to be displayed inside the main window.

Use extended colors: Select this option to highlight clients with high progress. Clients above 80% will be highlighted light-green, clients above 90% dark-green.

Menu: File

Open overview: Opens the overview window or puts it frontmost.

Update overview: Sends a request to all FoldingObserver- applications to sent back the actual status.

Rebuild overview: Clears all clients inside the overview window and sends a request to all

FoldingObserver- applications to sent back the actual status. Use this function to remove any inactive or disconnected clients from your list.

Show details...: Shows extended Details for the currently selected client.

Set checkpoint: Select this menu item to set a checkpoint at the currents progress of all clients. Together with the current progress, the progress since the checkpoint will be displayed. By this it is easy to check the progress of your clients e.g. since yesterday. If a new protein is started, the checkpoint will be set to zero.

Menu: Edit

Display- options...: Lets you set the details displayed in the overview window.

Menu: Window

Show statistics...: Opens a window with details and statistical informations about the connection and the communications with other FoldingObserver- applications.

Check for latest version: Points your web- browser to a web site where you can check for the latest version of FoldingObserver. This will only start your web- browser. No additional data will be transmitted.

Deinstallation

Delete the FoldingObserver- application from your harddisk. Additionally, your preferences had been saved as "FoldingObserver.prefs" file inside your ~/Library/Preferences/ folder.

License

FoldingObserver is Freeware. You can use it absolutely free of charge. However, on my website you have the possibility to donate a small amount to me, to help with the further development of this software, to show your satisfaction with this software or simply if it save you time.

The software is delivered without any warranty whoatsoever. I am not reliable for any kind of damage or lost data that resulted by using this software.

If you have further questions, problems or some wishes, please write an email to:
<foldingobserver@sparrer-online.de>