Support for network statistics and automatic proxy management in KDE

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1 Contact Details:

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- **Proposal Title:** Support for network statistics and automatic proxy management

2 Motivation for Proposal

The network manager applet currently displays basic information related to the established connection such as speed, cumulated traffic, IP address etc. This is all great but it can be improved.

My proposal is to show the user more advanced usage statistics such as cumulated traffic in different periods (days, months), connection uptime and average speed per connection. This would be specially useful for mobile broadband users or users making use of a limited bandwidth connection and it would close bug 253161.

As an extra to this feature I would like to implement automatic proxy switching depending on the established connection. My goal is to make it easier for users who have to constantly switch proxy settings throughout the day (going to work and coming back home is an example).

3 Implementation Details

In order to implement this proposal my approach would be to extend the QML code of the nm-applet to display the usage statistics along with the information that's already being shown. More specifically to modify the DetailsWidget.qml

file (or most likely create a new component, like the detailed widget but to have it's own space and not share anything with the details widget) and add a new widget to display the usage in a graph like the current TrafficMonitor. (probably use the Plasma::SignalPlotter as well).

My idea for the proxy switcher is basically to make use of KNotify to handle the connection event and change the KDE proxy settings. This shouldn't take as long as the statistics feature.

To store all this data I could use an XML file stored in the home directory of the user.

4 Timeline

My plan is to write a blog to log my progress and make it available to the community. I like to work mostly from evening onwards. The deadlines I want to set are:

- **May 28 - June 9**: Read plasma network manager documentation and code. Also the documentation related to the tools I will use (mostly Qt).
- **June 10 - June 17**: Make sketches for the UI and familiarize myself with the Qt components, write some test code.
- **June 18 - July 2**: Start coding the statistics feature, by the end of this period I want to have at least the data gathering started, most of the classes I'm going to use must all be designed by now.
- **July 3 - July 17**: Have the project to at least be able to collect the connection data (usage, uptime and the like). Should start the UI at this point.
- **July 18 - Aug 1**: Mid term evaluations. At this point I want to have the statistics feature functional (maybe not fully working but usable with bugs) Being able to display the data to the user is the key here.
- **Aug 2 - Aug 15**: My goal is to have the statistics feature implemented by then, a fully deliverable feature. Start the proxy component.
- **Aug 16 - Aug 30**: Make the UI components to let the user choose the proxy they want for a particular connection. Maybe not working but at least visible.
- **Aug 31 - Sept 14**: Finish implementing the proxy switcher, integrate with the proxy control module etc.
- **Sept 15 -**: Test and debug. Time left in case I misjudged the complexity of some tasks.

5 About me

I'm a Computer Science student at Universidad de Málaga (Spain). Next year will be my last year as a student and I want to make a large contribution to open source software before I finish. I've been using GNU/Linux for about 6 years now (last 4 with Debian =)), I like Vim and One True Brace Style. I like to script everything to make my life easier.

I'm most comfortable with C/C++, Java, and Python. I also like Lisp and I've been playing with clojure for sometime now.