

# Linux: A leader's perspective

*Part Two of a two-part series on Linux and assistive technology*

**By Janet Hopkins**

The Internet is truly an amazing tool for any writer seeking answers. I went in search of a person who would know something about assistive technology (AT) and Linux / Open Source initiatives. It only took a few clicks to discover the founder and organizer of the Linux Accessibility Conference, which has been held twice since 2001 in Los Angeles.

JP Schnapper-Casteras is a student at Stanford University. As a programmer, panelist and lecturer on Unix and Linux, Schnapper-Casteras works to organize and disseminate information about Linux accessibility initiatives. Schnapper-Casteras received a LinuxFund Grant <[www.LinuxFund.org](http://www.LinuxFund.org)> in the summer of 2000 to develop Project Ocularis <[ocularis.sourceforge.net/](http://ocularis.sourceforge.net/)>. He is the founder and project leader of Project Ocularis, a collaborative effort to educate developers and users about support, accessibility and usability, and help enlarge the Linux accessibility community.

Schnapper-Casteras has also been leading other Linux accessibility initiatives. He maintains the Free Desktop Accessibility Working Group <[www.speechinfo.org/fdawg/](http://www.speechinfo.org/fdawg/)>, which was initiated after the first Linux Accessibility Conference. This list serves as a point of convergence for the Linux accessibility developers' community. Schnapper-Casteras also designed the GNOME Foundation Web site, started the KDE Accessibility Group in the summer of 2001, and created

the Linux Accessibility Resource Site (LARS), which tracks all Linux accessibility efforts and maps out major challenges. He works as a consultant for the Trace Research and Development Center and is making plans for the 3rd Annual Linux Accessibility Conference scheduled for March 2003 in Los Angeles. Despite this busy schedule, Schnapper-Casteras made time to respond to some questions about Linux and assistive technology.

**Q:** What have been the most important accessibility accomplishments for the Linux OS?

**A:** Linux actually has a surprising number of accessibility-related tools and components already in place, so it is hard to pinpoint the most important ones. The Linux Accessibility Resource Site (LARS, <[trace.wisc.edu/linux/](http://trace.wisc.edu/linux/)>) is a com-

prehensive list of current work in the field. If I had to choose, I would say Speakup, the GNOME Accessibility Project, and Festival/Flite.

**Q:** Which specific areas of AT are Linux developers focusing their efforts on now?

**A:** Developers in the Linux accessibility community seem to be particularly active in the GNOME Accessibility Project, the Speakup Linux distribution, and Festival and Flite projects.

[Note: The GNOME Accessibility Project Web site is located at <[developer.gnome.org/projects/gap/](http://developer.gnome.org/projects/gap/)>; The Speakup Project can be found at <[www.linux-speakup.org/](http://www.linux-speakup.org/)>; Information about the Festival Speech Synthesis Project is available at <[www.cstr.ed.ac.uk/projects/festival/](http://www.cstr.ed.ac.uk/projects/festival/)>; The Flite Project can be found at <[www.speech.cs.cmu.edu/](http://www.speech.cs.cmu.edu/)>]

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flite/index.html>; Information about KDE (K Desktop Environment) accessibility initiatives is available through <mail.kde.org/mailman/listinfo/kde-accessibility>]

Q: What are the challenges going to be for special educators, clinicians and people with special needs currently working under Linux?

A: The challenges are often software-specific. Some applications require more configuration, others simply include many keyboard-shortcuts that must be memorized and thus have a steeper learning curve. In general, I would say the issue of configuring and installing accessibility-related software is still a hurdle, just as configuring and installing Linux in general is still a hurdle for many end-users. One challenge that is being overcome by the kind folks at the GNOME Accessibility Project is that of gaining access to common graphical applications such as Mozilla or StarOffice.

Q: Has there been any discussion with the Assistive Technology Industry Association on development of AT products for Linux?

A: No, not that I know of.

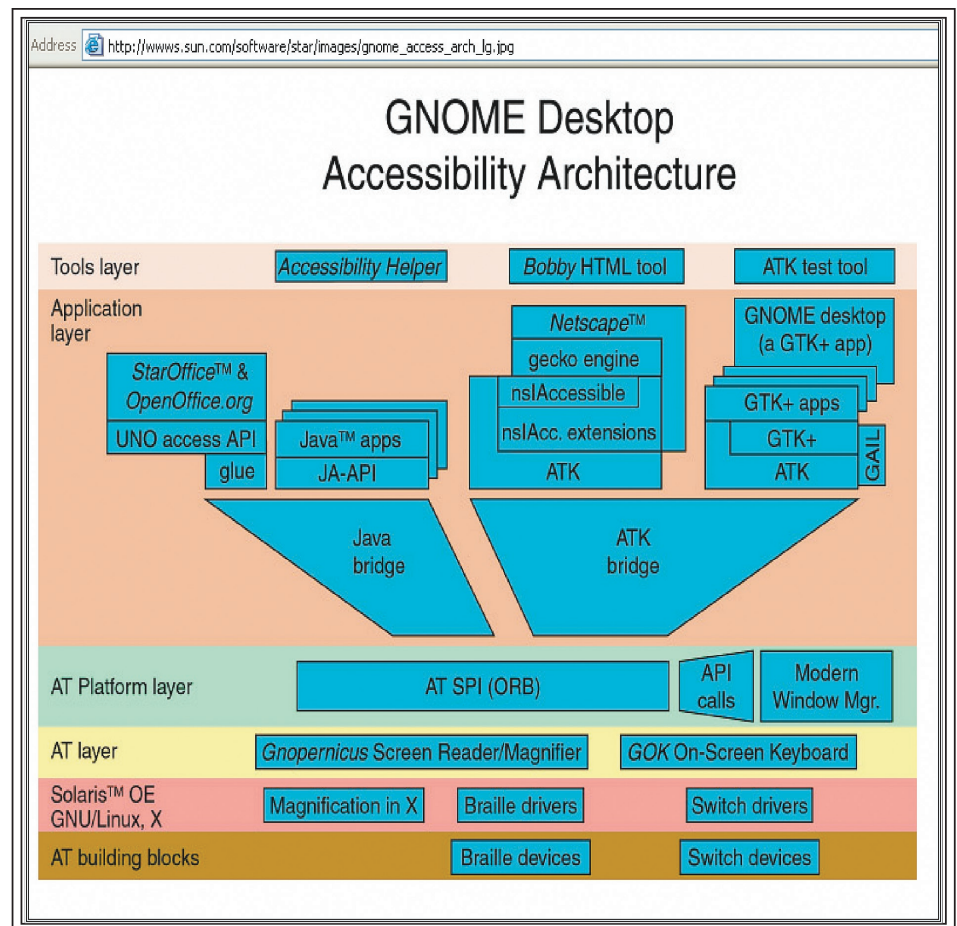
[Note: Some AT software vendors questioned at the 2002 Closing The Gap Conference did indicate that they are considering or have discussed the development of Linux compatible products.]

Q: What obstacles / problems might hinder collaborative efforts with the industry?

A: One obstacle might be the stereotypes that building products for Linux means having no profit. Another could be the misconception that Linux is for developers, hackers, hobbyists and the occasional system admin only. The issue of porting an application from operating system or graphics toolkit to another might also cause problems for companies trying to enter a future Linux AT market.

Q: You mention that there is a perception that building products for Linux means having no profits. Is there, within the Linux community, support for working with proprietary AT software developers, or are they seen as part of the problem when it comes to making accessible computing widely available?

A: BAUM <www.baum.de> is a very big contributor to the GNOME Accessibility Project and everyone is quite grateful for their work. I know of no other AT-only companies that are working on or support-



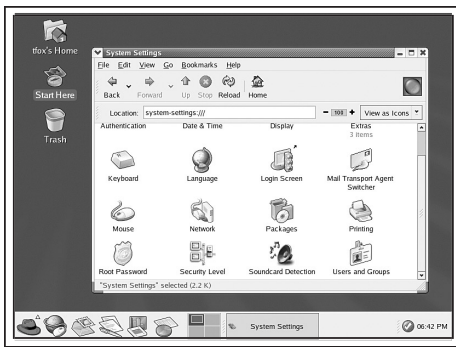
ing Linux accessibility software. There was some talk at the 2nd Linux Accessibility Conference about how a value-added business model could emerge that used Gnopernicus (the screen reader for GNOME, part of the GNOME Accessibility Project) and tacked on vendor-specific enhancements, customizations and extensions. The people who were there seemed to support that idea.

I personally think that the cost of some assistive technology is unreasonably high and could be lowered by using Linux-based solutions. That is the reason why I got into Linux accessibility in the first place, and I know some other people share that opinion.

Q: You also mention a misconception of Linux being for developers, hackers, hobbyists etc. How much of the open philosophy associated with the Linux movement is going to be threatened by association with proprietary software companies? Is there a feeling that some aspects of software development that will help to advance Linux and make it a more attractive OS can be better handled by industry than by the Open Source community?

A: Those are hard, fairly broad questions. I do not think I can answer either definitively. I do not think the Linux movement will ever be threatened in any real sense of the word. People will always continue to use and develop Linux in some form or another. I suppose it is a question of scale: will the Linux movement shrink greatly because of association with a proprietary company? I would say probably not. Some companies have, in the past, tried to take free software and do things that many in the community have considered unfair or wrong (i.e., taken a piece of free software, tacked on a substantial proprietary component, and marketed it to the general public). The community has tended to jump on those sorts of actions and criticize them rather vigorously; the results are usually not good for the company in question.

At the same time, I think the Linux community does realize that some other companies have really advanced the Linux movement through their involvement, marketing, etc. and that that type of corporate involvement is still needed. I have given you



*Red Hat Bluecurve graphical interface provides a unified look for both KDE (K Desktop Environment) and GNOME (GNU Network Object Model Environment)*

a slightly two-sided answer and I think it is a difficult, very context-specific question.

## GNOME Collaboration

The GNOME 2.0 Desktop provides an example of how the Open Source community is working with institutional and corporate partners to provide accessibility solutions for computer users with disabilities. Accessibility features have been contributed through the collaborative efforts of the GNOME Foundation developers, BAUM Retec AG, the Adaptive Technology Resource Centre (ATRC) at the University of Toronto and Sun Microsystems, Inc. Users of the GNOME 2.0 Desktop now have access to a full-featured screen magnifier, a screen reader, a set of Braille drivers <developer.gnome.org/projects/gap/AT/Gnopernicus/> as well as a flexible on-screen keyboard <www.gok.ca>. Readers interested in learning more can find the complete press release “Users with Disabilities Get Built-in Assistive Technology Solutions with the GNOME 2.0 Desktop” (January 28, 2002) at <foundation.gnome.org/press/pr-assistivetech.html>. As well, a June 26, 2002 press release issued by the GNOME Foundation states that “More features and enhanced accessibility capabilities will be added later this year.” <foundation.gnome.org/press/pr-gnome20.html>.

## AFB Award

On September 24, 2002, Sun Microsystems received the American Foundation for the Blind’s “Helen Keller Achievement Award in Technology.” This award was presented to honor Sun’s leadership in universal design. The GNOME 2.0 accessibility architecture was recognized for expanding the options

available for technology consumers who are blind or visually disabled. Details on the GNOME 2.0 accessibility architecture can be found at <www.sun.com/software/star/gnome/accessibility/architecture.html>.

## Red Hat Linux 8.0

Red Hat, the most popular Linux distribution, released Red Hat Linux 8.0 on September 30, 2002. Red Hat Linux 8.0 has incorporated some significant Open Source accessibility efforts. GNOME 2.0 is the default desktop included in Red Hat’s latest version. Red Hat 8.0 includes the Speakup screen reader to support equal access to all systems functions. For more information on the installation of Red Hat with Speakup and the Speakup mailing list, visit <www.linux-speakup.org/ftp/disks/redhat/index.html> A Flash presentation of Red Hat Linux 8.0 can be viewed at <www.redhat.com/software/linux/>. An informative review, “Red Hat Linux 8.0 Tops Desktop Class,” written by Jason Brooks (eWeek.com, Oct. 14, 2002) is available at <www.eweek.com/article2/0,3959,633867,00.asp>.

## Linux Accessibility Conference 2003

According to JP Schnapper-Casteras, the 3rd annual Linux Accessibility Conference (LAC3) is once again planned to take place in Los Angeles. LAC 2003 will be held in the La Jolla Room of the Los Angeles Airport Marriott Hotel on Thursday, March 20 and Friday, March 21.

The LAC3 events are still in the planning stage. However, the activities under consideration include:

1. A “Linux Clinic” session about making Linux work for you, answering people’s questions
2. Developer meetings on technical issues
3. Discussions on furthering Linux accessibility

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## Products

Red Hat Linux 8.0 Personal \$39.95

Red Hat Linux 8.0 Professional \$149.95

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