Linux software vendor Red Hat Inc. plans to publicly confirm on Tuesday that it has become a founding corporate member of the One Laptop Per Child (OLPC) organization.

The non-profit OLPC was established a year ago to spearhead development of the Massachusetts Institute of Technology (MIT) Media Laboratories’ project to build US$100 laptops for schoolchildren worldwide, particularly students in emerging and developing countries.

The ruggedized lime-green 500MHz laptop, which is in prototype phase, will run a slimmed-down version of the Linux operating system and be powered by either an AC adapter or a wind-up crank. Each laptop will act as a node in a mesh peer-to-peer ad hoc network, meaning that if one laptop is directly accessing the Internet, when other machines power on, they can share that single online connection.

The idea is to provide children with a free laptop to improve their education in the classroom and outside. Governments would pay for the laptops.

Red Hat formally committed to the initiative last month, according to Mike Evans, Red Hat’s vice president of corporate development. The vendor joins Advanced Micro Devices Inc. (AMD), Brightstar Corp., Google Inc., News Corp. and Nortel Networks Corp., which also are helping to develop the laptop. Red Hat had been in talks with OLPC for almost a year.

Evans wouldn’t comment on the amount of money or resources Red Hat is giving to OLPC. However, a recent United Nations press release stated that all six of the technology companies have already donated $2 million each to the laptop project. Last week, OLPC and the United Nations Development Programme (UNDP) signed a memorandum of understanding at the World Economic Forum in Davos, Switzerland to work together to deliver the laptop and other learning resources to schools in what they termed “least developed countries.”

Red Hat’s commitment to the laptop project doesn’t mean the company’s software will be the de facto operating system for the device, according to Evans. “The laptop is a very open platform, similar to a PC; any OS can run on it.” The Red Hat operating system for the laptop will be fully tested and validated with both the laptop hardware and the open-source educational applications due to run on top of the operating system, he added.

When Nicholas Negroponte, showed a working prototype of the laptop at the World Summit on the Information Society in Tunis, Tunisia, in November, the device ran a variant of Red Hat’s Fedora operating system, according to Evans. Negroponte is the founding chairman of MIT Media Labs and the chairman of OLPC.

Red Hat has staff onsite at MIT working with OLPC, Evans said, as well as Red Hat staffers around the world. He’s also counting on a large amount of participation from the open-source community to address the challenges of putting Linux onto the $100 laptop.

The challenges include making the operating system function within the laptop’s power constraints, developing new technology to interact with the mesh networking and determining how best the operating system would work with applications running on top of it. “Open-source participation is strong in some countries and very weak in others,” Evans said. “This [the laptop project] could be
potentially unifying” as developers in Nigeria talk to their counterparts in countries including Thailand, Argentina, Egypt and India.

Looking into the future, should the project be a success and tens of millions of schoolchildren grow up using open-source software, the ramifications for the global open-source community are powerful, according to Evans. “It is pretty bold,” Evans said of the project. However, he feels the timing for such an initiative is right, because many governments are keen to invest in technology for their populations.

Even should the project ultimately fail, raising the topic of how to bridge the digital divide and “making a dent in it” would mean success, according to Evans. He added that MIT Media Labs appears to have learnt from its previous failures with trying to create Media Labs in Europe and Asia. “What I always say to people is that anyone really trying to change the world will be doubted or ridiculed,” Evans added.

Specifics on when the laptop will appear keep shifting, but last week’s UN press release states that manufacturing begin when a minimum of five million machines have been ordered and paid for in advance by governments. OLPC would then aim to have the first units ready to ship by early 2007.

MIT’s Negroponte is due to speak at the Red Hat Summit user conference on June 2 in Nashville, Tennessee, according to Evans.