Kenya-based ISOC Senior Development Manager for Africa Michuki Mwangi has a simple vision for the future of the Internet in that continent.

“The vision is that by the year 2020, we should have 80 percent of the Internet traffic that is generated within the continent. And we only have to go outside of Africa to get the remaining 20 percent. So 80 percent local and 20 percent international Internet traffic by the year 2020. It’s a very ambitious programme.”

Historically, African Internet users, particularly those in different countries or on different ISPs, have had much of their traffic routed through Europe, driving up costs and pulling down speeds.

To change this and reach the 80/20 vision, ISOC partnered with the African Union and African Network Information Centre to implement AXIS, the African Internet Exchange System. The AXIS IXP Best Practices project, to help engineers in various countries across the continent set up their own domestic Internet exchange points, allows the various countries’ ISPs to trade traffic with each other without routing it through Europe.

The AXIS project will also support existing IXPs to grow and become regional IXPs, where ISPs from several countries in a region will be able to exchange traffic. In the first two years of the programme, 2013 and 2014, the AXIS project brought five new IXPs online. Michuki said that’s a major breakthrough. From 2000 to 2013, an average of two new IXPs would be created in Africa every year.

He pointed to Benin as an example of what an IXP can do for a country.

“They were part of the AXIS project, and now that country moved from having an exchange point to having a Google cache,” he said. “And there are now 130 megabits per second being exchanged. In terms of the benefits, just the difference in the experience of watching videos is significant.”

It also cuts the cost for operators by roughly 70 percent. More importantly, though, the ability to do something as simple as watch a YouTube video gives users in Benin faith in the quality of the infrastructure.

“It’s the user confidence that is really critical,” Michuki added. “Once you have that confidence, governments offer services online, businesses get involved in e-commerce. It’s that confidence that’s built on something as simple as a Google cache.”
Michuki and his colleagues, led by Regional Bureau Director Dawit Bekele, are also working on other projects to help improve the Internet in Africa, like helping create a network of domain resellers working in top-level African country domain names via the yearly Africa Domain Name System Forum. They are also hosting the African Peering and Inter-Connection Forum (AfPIF), which gets ISPs, IXPs, and terrestrial and subsea fiber, and content providers in the same room.

Kevin Chege, ISOC’s Internet Development Manager for Africa, is working to build people power with Network Operator Groups and National Research and Education Networks in various regions across the continent. Typically, engineers were trained directly by ISOC or with partners who would fly personnel into a region to conduct week-long training seminars. But in 2014, ISOC piloted a new, online training course on UNIX, networking skills, and managing Domain Name Servers.

“The idea of the online course was to increase the reach, scalability and improve the efficiency of the programme,” commented Kevin. “With the assistance of ISOC’s Internet Leadership Programme, we were able to deploy this online course. That’s a major step towards increasing the number of people we can train per year. We’ve only been able to train about 200 or 250 [per year], but with the online course we think we can triple or quadruple that number.”

The other major development in 2014 was an increase in the number of Network Operator Groups doing their own training and capacity building in their respective regions.

“We played a part in the creation of two new Network Operator Groups, one was in Southern Africa and the second one was in Sudan,” Kevin said. “And those two Network Operator Groups were able to undertake their own capacity building activities locally, without much support from us, which is a big benefit of the programme and one of the main objectives.”

The work ISOC and its partners are doing is crucial for the next stage of the continent’s development. Africa is ready for business. Opportunities abound for content providers and network operators.