

# Calling for a Cloud-Native Broadband Infrastructure

The U.S. government should dedicate broadband funding toward a modern program that stimulates innovation and new approaches to the broadband challenge.

By Richard Brandon / *RtBrick*

**T**he Senate is currently debating the GRID Broadband Act and aims to speed up broadband rollouts by leveraging the existing U.S. electrical grid. At the same time, telecom stakeholders are requesting a pause in the Universal Service Fund (USF) because the cost to consumers has been increasing, and GRID collides with the Infrastructure Investment & Jobs Act, dispensing billions of federal dollars to fund fiber deployments to many of the same rural areas. As of July 13, all 50 states had applied for initial planning funds for the Broadband Equity, Access, and Deployment (BEAD) Program, which provides a staggering \$42.5 billion to expand high-speed internet access by funding planning, infrastructure deployment

and adoption programs.

Are these government initiatives missing a huge opportunity, however well-intentioned they may be? Government bodies are not always the best-placed groups to encourage innovation, and this funding will likely be sucked into broadband buildouts that use an approach essentially unchanged for 25 years. In contrast, there is an opportunity to invest these vast sums into a program that stimulates innovation and new approaches to the broadband challenge.

It is unclear who will suffer most if the U.S. presses on with business as usual. Taxpayers will see their dollars wasted, underserved broadband communities will get less for their money, and the country will miss the opportunity to take the lead in new technologies and skills.

Who is to blame? Not just one entity. But it's up to the telecom industry and carriers to solve these problems themselves.

## DWINDLING TECHNOLOGY SOURCES

Unfortunately, carriers have few choices when sourcing their technology. The number of carriers dwindled in recent years as the telecom industry consolidated into a handful of large, dominant suppliers with vested interests in the status quo that generated little innovation.

In recent years, the industry looked to China to lower costs, with temptingly competitive offers from loss-leading suppliers. But the Chinese also raised prices once they locked the carriers' operations into using their systems. In

The decline in vendors and options has suddenly been reversed, and now a raft of new entrants can deliver rapid innovation in hardware and software. For instance, software from companies such as RtBrick allows telcos to turn new switches into the powerful routers that they need to deliver high-speed internet services.



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In addition, there is a growing awareness of potential security risks that derive from building critical infrastructure on technologies from such countries.

This is all compounded by stagnation in the skill sets of the telecom workforce, especially when compared with the world of giant cloud-IT providers. In contrast to the telecom industry, “cloud-native” organizations innovate constantly to deliver a step-change in operational efficiencies, benefiting both themselves and their consumers.

Fortunately, a quiet revolution taking place could solve these problems. Until now, a few global suppliers held the resources to develop the underlying silicon modern broadband systems require, and their cost points reflected that. However, advances in “merchant-silicon” – chipsets developed by third parties, such as Broadcom and Intel – led to the arrival of open telecom hardware. This is the same seismic shift the computing industry benefited from 30 to 40 years ago, resulting in today’s world, in which people can run software from many companies on many computer brands.

As a result, telcos can now access low-cost, powerful hardware (usually assembled in Taiwan), choose independent software from companies based in trusted democracies, and turn it into broadband or 5G networks.

#### **RAPID INNOVATIONS**

The decline in vendors and options has suddenly been reversed, and now a raft of new entrants can deliver rapid innovation. Taiwanese hardware vendors, such as EdgeCore and UfiSpace, offer switches with far better cost performance than traditional switch vendors. Software from companies such as RtBrick and Drivenets allows telcos to turn these switches into the powerful routers they need to deliver high-speed internet services.

This means a new, lower-cost, high-performance broadband rollout is suddenly possible. Carriers can build and operate their services, such as the cloud, and run their vast data centers. On top of that, this cloud-native approach will facilitate a new generation of young engineers with modern skill sets who can lead the telecom field, as many U.S. tech

companies have shown the world in other areas of computing.

It is encouraging that such a large amount of government money is being spent on solving the broadband digital divide. However, if providers and communities spend that much U.S. taxpayer cash, let’s make sure they do it wisely – and use it as a steppingstone to accelerate the adoption of new technologies. Let’s not plow more money into old solutions that have been used for decades. Isn’t it time to use that funding to improve infrastructure significantly? That will make delivering more broadband to those who need it at a lower cost and simultaneously developing the next generation of the U.S. workforce possible. ❖

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