



**Talal Abu-Ghazaleh Information Technology International**

# Newsletter



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## TAG-Org to increase its Internet bandwidth

AMMAN - Talal Abu-Ghazaleh Organization has announced a plan to increase its current internet bandwidth to better serve the growing needs of the Group.

TAG-Org is one of the few companies in the region that is its own ISP, providing high speed, secured internet connectivity directly from the primary internet backbone.

“An increase in the volume of business we process and services that we provide, has meant that our current Internet link is getting fuller by the day which we have to proactively upgrade. Currently, we have an Internet bandwidth of 450 mbps. We are looking to massively increase this to 2.45 gbps within the coming months” said TAG Infrastructure Director Mr. Khaldon Atieh.

He went onto say “This increase will serve the Group well moving forward. In addition to this, we have recently overhauled our entire Internet security infrastructure to ensure that it is protected

with the latest security technologies. This is essential to ensure the security of all of services and information and has only been possible with the vision and support of HE Dr. Talal Abu-Ghazaleh.”

The internet infrastructure supports all of TAG-Org offices globally and all other initiatives and projects spearhead by HE Dr. Talal Abu-Ghazaleh.



## Abu-Ghazaleh highlights NEAAR backbone to speed up scientific discovery

AMMAN – H.E. Dr. Talal Abu-Ghazaleh, Chairman of the Arab States Research and Education Network (ASREN), emphasized the importance of the collaboration of Networks for European, American, and African Research (NEAAR) for increasing data sharing and speeding up scientific discovery across Africa, US, and Europe. NEAAR is a powerful cross-organizational project that provides services and bandwidth connecting researchers in the US with their counterparts in Europe and Africa.

Indiana University (IU) jointly leads the NEAAR collaboration with GÉANT, the European research and education network (REN), in a cooperative partnership with

the African regional RENs: the UbuntuNet Alliance in south and east Africa, ASREN in North Africa, and WACREN in the west and central Africa.

Jennifer Schopf, Principal Investigator of NEAAR at IU, announces: “A new 100Gbps transatlantic subsea cable supplied by AquaComms has been switched on to enable extensive data sharing between continents”. She added: “It is expected that improved intercontinental networks will accelerate scientific breakthroughs in food security, environment preservation, and treatment of chronic diseases by allowing researchers to share data and results and to use research



and computational resources more quickly”.

Cathrin Stöver, co-Principal Investigator of NEAAR at GÉANT, said: “This new link is the first step of a multiple-phase collaboration set to create a new exchange point in Africa and benefit from EU-funded AfricaConnect2 pan-African network extensions for enhancing regional research and education collaboration”

## Bridgestone modernizes 50 year old data center

The year 1969 was when the tire-making giant Bridgestone Corp. opened a data center in Akron, Ohio. If walls could talk, this data center could tell the story of IT.

That center opened on Oct. 9, 1968, with racks and racks of tapes and a water-cooled mainframe. Today, it is the home of systems supporting an almost completely virtualized environment.

Bridgestone recently finished consolidating six data centers, totaling about 25,000 square feet, into one 10,000-square-foot facility. The project began in 2015 and cost \$17.3 million.

The renovated data center officially opened in April and its completion was as important to the community as it was to the company. The mayor of Akron was at the ribbon cutting. The facility employs about 80 IT workers.

Bridgestone had run a “fairly decentralized” environment, in terms of management, processes and systems, said Rob Olds, Bridgestone’s acting CIO. The company wanted the same standards, processes and governance across the enterprise, and a data center that “is a point of stability and confidence but also an enabler of the business,” he said.

But under the raised floor was history.

There were water-cooling lines dating from the late 1960s and evidence of successive waves of technological change, mostly in the form of copper wiring. Physical servers were moved in and out of the data center over the decades, but the older, connecting tech under the floor wasn’t all removed.

The Bridgestone data center in 1968, with racks and racks of tapes.

“It was layers and layers of wiring as you would expect,” said Mike Hartz, senior



manager, IT Special Projects, who managed the renovation.

The project went from wall to wall and included hauling out 26,000 pounds of copper wiring.

The data center now has 67 miles of fiber-optic cabling.

The near 50-year history of the place provides a benchmark for measuring change. In 1968, the data center had 8,500 miles of tape storing 1,986 gigabytes of data, or about 2 terabytes, an amount of data that can fit on a 2TB thumb drive. Today, the data center holds about 3.5 petabytes of data, said Bridgestone officials, or about 3.5 million GB.

The shrinking of the data center is due to improvements in technology. Data center space in general is declining at enterprises due to technology advancements and use of the cloud.

About 90 percent of the workloads in Bridgestone’s data center are virtualized, Olds said. The facility has 3,000 physical and virtual servers.

Olds said there will be an ongoing need for on-premise data centers. “To me it’s a balancing act,” he said, and he doesn’t see any model that is all-cloud or on-premise. The cloud is a complementary service, he said.

Bridgestone also built a data center to tier three standards, which means having redundant power feed, generators, power distribution, cooling system and network. The Uptime Institute, an independent advisory group, developed a Tier Classification System and certifies data centers on one to four levels. Bridgestone didn't seek official certification, since "we weren't selling our services, it didn't make sense to spend that money," Hartz said.

The renovation allowed Bridgestone to move to an environmentally friendly cooling system.

The data center uses outside air cooling for 70 percent of the year. Mechanical cooling is only required once the temperature reaches 70 degrees.

In the Mother of all Demos, Engelbart demonstrated the mouse, videoconferencing, copy and paste, windowing and many other technologies. It's hard to imagine what this data center will look like in 2068.

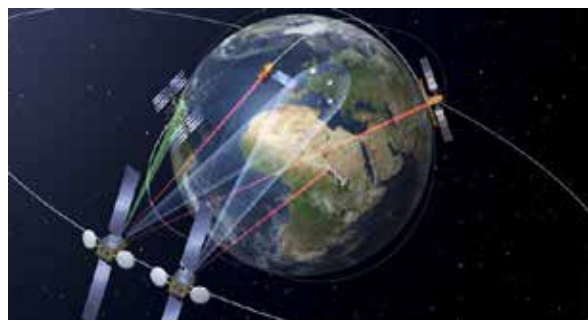
<http://www.itnews.com/article/3194275/data-center/bridgestone-modernizes-data-center-hauls-out-13-tons-of-copper-wire.html>

## SpaceX to start launching 4,000-plus broadband internet satellites in 2019

Detailed within a recent Federal Communications Commission filing, Elon Musk's SpaceX wants to start launching thousands of internet-providing satellites during 2019. Structured in multiple phases through 2024, the 4,425 satellites would use advanced mesh networking to offer high-speed broadband services in rural areas that still have to rely on dial-up or simply don't have access to any internet service options.

SpaceX is currently planning on launching the first prototype of the broadband-providing satellite into space by the end of 2017 and a second prototype during early 2018. If successful, satellites will be launched in batches over the next decade. The company is projecting a \$30 billion revenue stream from the satellite network by 2030 and may increase the total number of satellites orbiting in space by an additional 7,500, if approved by the government.

This broadband distribution strategy is the opposite of what other internet service providers are pursuing. Companies like Comcast and Time Warner have to invest heavily in fiber cable installation, which involves navigating property rights as well as digging trenches to install miles of fiber-optic cable. Of course, SpaceX will have infrastructure costs on the ground, specifically to help manage broadband resources in areas of high congestion.



The largest hurdle for SpaceX will likely be related to latency between the satellite network in space and the end user on the ground. It's possible that internet speeds simply won't compare to high-speed fiber connections. However, expanding into markets that don't have any access to broadband internet service may force competitors to also push into those markets, which would be ideal for consumers in those rural areas.

SpaceX isn't the only company investing in satellites that provide broadband services. Boeing has launched a satellite broadband project, which may attract an investment from tech giant Apple. Four years ago, Google launched Project Loon. That venture utilizes a balloon-based broadband network hovering in the stratosphere to provide much-needed internet service to remote areas of the world.

<http://www.foxnews.com/tech/2017/05/04/spacex-to-start-launching-4000-plus-broadband-internet-satellites-in-2019.html>

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