Donovan: AT&T Beating Moore's Law

NEWS ANALYSIS
CAROL WILSON, Editor-at-large
1/6/2016

AT&T is seeing its best cost-per-megabyte gains for two decades, according to its top technologist, John Donovan.

In fact, Donovan said today that, after two decades in which its networks failed to match Moore's Law improvements in performance, AT&T has now caught and exceeded that standard and will continue to improve by moving things from hardware to software and doing smarter planning of capital outlays.

In a wide-ranging presentation at Citi's 2016 Global Internet, Media and Telecommunications Conference, the senior executive VP-technology and operations for AT&T Inc. (NYSE: T) said his company remains laser-focused on lowering its cost per megabyte and that focus is driving other strategies, including its view of 5G and small cells and its ongoing fiber deployment.

By integrating its wireless and wireline network planning, it is not only able to justify extending fiber deeper into its network, to make more efficient use of available wireless spectrum, but can also sell a wider range of services to enterprises, from WiFi to its NetBond and Network on Demand offers. (See AT&T: SDN Is Slashing Provisioning Cycle Times by up to 95%.)

Donovan kicked off the discussion by calling this "the most exciting time for technologists" in his long career because "all dimensions of the network are in movement," including the core, the access and the software and operations that glue everything together. Then, over the course of the 45-minute Q&A session, he calmly laid out the dramatic changes underway at AT&T that, he says, are letting the company meet capacity demands at much lower cost, roll out new services faster and plan its network investments more efficiently. (See Donovan Touts AT&T's Software Push.)

He referred to Netbond, AT&T's SDN-based secure VPN access to popular cloud platforms, as "a franchise changer," in that it gave enterprises the secure connections to the cloud they needed and prevented the virtual private network business from being decimated by a mass shift to basic Internet access to cloud. AT&T's other SDN-based offering, Network on Demand, is "the fastest growing thing I've seen, from a customer adoption standpoint," Donovan said. (See AT&T NetBond Getting Amazon Ties.)

Zoom in on carrier SDN strategies in our SDN section here on Light Reading.

The ability to beat Moore's Law actually happened about five years ago on the network side. The picture continues to improve as more things are moved into software and commodity hardware does more of the hard work within the network as well, enabling reductions in capex and opex, he stated.

"We have put out these ratios for percentages on the new platform to help give guidance to our supply community of how aggressive we want to be on this, and to the financial community as well, so you have an understanding of some of the impacts of these things," he said, referring to AT&T's aggressive plan to go all-IP and have 75% of its functions virtualized by 2020.

"When you go to software-defined networking for the delivery of fundamental services, opex is dramatically cheaper and capex is as well, because you go to more commodity hardware," he said. "So we will keep putting those numbers out -- the supply community needs them, because they need to be able to forecast how ambitious they need to be in directing their R&D investments."

Part of achieving those capex gains while continuing to meet rising demand for bandwidth is AT&T's integrated planning. While its Project VIP local fiber deployment initiative has wound down, the company is still able to push fiber more deeply into some areas, based on the need for business services or backhaul for cell towers and small cells, Donovan said.

"We have a really good cost curve on incremental costs for wireless," he said. "We are still putting fiber out where it is economic -- that is a big part of our program."

AT&T is "doing everything everyone else is doing on 5G" but its tight focus on cost-per-megabyte means that the carrier doesn't feel the urgency to be first to deploy the next generation of wireless -- unless it identifies cost advantages. "We haven't been overly public, because what we want to do is keep the option of being early, in the middle or at the back-end, depending on whether we decide to optimize speed, availability or cost."

What it comes down to is managing some massive transformations in customer behavior, Donovan said, as users have shifted to using Bluetooth and WiFi in the last 1,000 feet, cellular wireless in the last couple of miles and everything else on a densely packed wireline network.

"We need to seamlessly manage that stuff so that we get the right yield -- that is what we are after, to get customers on the right network, get the right cost structure for all of those networks and meet the demand with a minimum cost," he said. "Right now we have done a really good job of dealing with some of these pretty massive transitions in user behavior."

One place AT&T hasn't expanded as rapidly as expected is in small cell deployment, but Donovan views that from the broader lens of integrated network planning as well. On the heels of "fast shot clock" initiatives at the federal and local regulatory levels -- which insured more rapid approval of cell tower permits -- AT&T was able to deploy more cell towers faster and in some places that weren't previously available, cutting the need for small cells. But the company has been aggressive on in-building work and is selling WiFi and other services, alongside NetBond and Network on Demand, to a growing base of business customers.

— Carol Wilson, Editor-at-Large, Light Reading

(11) | COMMENT | PRINT | RSS

COMMENTS

NEWEST FIRST | OLDEST FIRST | THREADED VIEW ADD A COMMENT

PAGE 1 / 2 > >>

Carol Wilson,
User Rank: Blogger
1/7/2016 | 12:13:06 PM

Login
50% 50%

Re: Exceeding Moore's Law
Totally disagree here, it wasn't fluff. He's talking about something that is critical for any network operator - the ability to handle massive increases in traffic without increasing the cost of the services for which consumers pay - something that's impossible to do in the competitive landscape that exists today.

As for why that makes AT&T an attractive investment, it's simple - the inability to do that means they fail as a company. Period. And failure is not an attractive investment option.

You can certainly argue, as Brian does, that his method of measuring and describing what AT&T is doing is flawed. We had some fun with that here.

But you can't just dismiss what he's saying about how they are operating the company and what they are trying to do as meaningless because it's not. It's essential to their survival and success.

REPLY | POST MESSAGE | MESSAGES LIST | START A BOARD

Duh!,
User Rank: Light Sabre
1/7/2016 | 12:04:47 PM

Login
50% 50%

Re: Exceeding Moore's Law
Bryan's right. It's fluff. "Beating Moore's Law per Megabyte (sic)" is a meaningless statement. It tells us nothing about how fast their cost/performance (or is it cost/capacity?) ratio is declining, much less how long they can sustain it or how it makes AT&T an attractive investment or a preferred supplier.

Brocade CEO on the New IP

Brocade CEO Lloyd Carney explains the importance of the New IP and his company's suite of SDN and NFV products. According to Carney, customers like AT&T and NTT are using Brocade for its best-in-class scaling and performance.

POST A COMMENT | READ (5 COMMENTS)

MORE FROM THE FOUNDER

FLASH POLL

The annual Vegas CES crush is underway – what will be THE hot topic this year?

- Drones
- IoT
- Smart homes
- 8K video
- Artificial intelligence
- Virtual reality
- Streaming video
- Big TVs (oh wait, that's every year)

Submit

ALL POLLS

LIVE STREAMING VIDEO

CLOUD / MANAGED SERVICES: Prepping Ethernet for the Cloud

Moderator: Ray LeMaistre Panelists: Jeremy Bye, Leonard Sheahan

POST A COMMENT | READ (0)

FULL SCHEDULE | ARCHIVED SHOWS

LRTV **VIDEO REPORTS** **CUSTOM VIDEOS**

Ericsson's Secret Cloud Recipe
(1)

Overture Networks NFV Solutions
(0)

ALL LRTV VIDEOS

UPCOMING LIVE EVENTS

Cable Next-Gen Technologies and Strategies 2016	March 5, 2016, The Cable Center, Denver, CO
Women in Comms breakfast co-located	March 10, 2016, Denver, CO

Haven't we learned anything since 1999?

REPLY | POST MESSAGE | MESSAGES LIST | START A BOARD

DHagar,
User Rank: Light Sabre
1/6/2016 | 6:29:12 PM

Login
50% 50%

Re: Exceeding Moore's Law
Carol, thanks! Sounds good!

REPLY | POST MESSAGE | MESSAGES LIST | START A BOARD

Carol Wilson,
User Rank: Blogger
1/6/2016 | 6:08:34 PM

Login
50% 50%

Re: Exceeding Moore's Law
Well, as long as we have a grown-up to supervise, I'll just jump back into the generalization pool and splash around for a while.

REPLY | POST MESSAGE | MESSAGES LIST | START A BOARD

DHagar,
User Rank: Light Sabre
1/6/2016 | 6:07:05 PM

Login
50% 50%

Re: Exceeding Moore's Law
inkstainedwretch, thanks for the "kids" complement. And you are not wrong as a "traditionalist" - that is clearly where it was developed. My point is that others have "applied" it more generously (as has the gentleman with AT&T) to the larger advancements I point out.

Note: You are keeping us "pure". Also, I agree with you about the questions being raised if Moore's Law has run its course - my thoughts - maybe in the "pure" sense, not so sure in the broader application.

REPLY | POST MESSAGE | MESSAGES LIST | START A BOARD

inkstainedwretch,
User Rank: Lightning
1/6/2016 | 6:00:47 PM

Login
100% 0%

Re: Exceeding Moore's Law
You kids can generalize "Moore's Law" to apply to whatever you want, I suppose, but I'm a traditionalist.

-- b

REPLY | POST MESSAGE | MESSAGES LIST | START A BOARD

Carol Wilson,
User Rank: Blogger
1/6/2016 | 5:50:54 PM

Login
50% 50%

Re: Exceeding Moore's Law
I understand Brian's point but I must confess that for a long time now, I've thought of Moore's law in its more general application, and so I didn't even question Donovan's statement.

As you point out, DHagar, the real key here is harnessing the power of newer technologies to make it possible to increase a network bandwidth - and its speed - while not holding down costs. The cost per megabyte focus that Donovan cites is highly relevant today.

REPLY | POST MESSAGE | MESSAGES LIST | START A BOARD

DHagar,
User Rank: Light Sabre
1/6/2016 | 5:42:00 PM

Login
50% 50%

Re: Exceeding Moore's Law
Carol, I am in full agreement with you. Although the initial application of Moore's Law was specifically addressing the compounded capabilities of the chip, it has widely been applied to the compounding power of technology (also leading to cost reductions), the networking, and the evolving "systems" from the advancement of computing power.

at Cable Next-Gen Technologies & Strategies

Women in Comms One-Day Conference co-located at the BIG Communication Event (BCE)	May 24-25, 2016, Austin, TX
BIG Communications Event (BCE)	May 24-25, 2016, Austin Convention Center, Austin, TX
Women in Comms breakfast co-located at NFV & Carrier SDN: SDN Integration in the Virtualized Realm	September 14, 2016, Denver, CO
Women in Comms breakfast co-located at OSS in the Era of SDN & NFV	November 3, 2016, London, UK

ALL UPCOMING LIVE EVENTS

SLIDESHOWS

A Peek Inside AT&T Partner Solutions
POST A COMMENT | READ (1 COMMENT)

The Wild Beasts of Light Reading (14)

A Year on the Road for Light Reading (13)

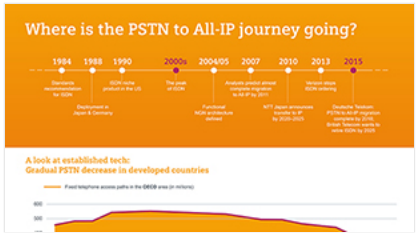
MORE SLIDESHOWS

INFOGRAPHICS

Where Is the PSTN to All-IP Journey Going?

Siemens breaks down three different approaches that may be part of an operator's roadmap to all-IP.

POST A COMMENT | READ (0)



Allot MobileTrends Report H2/2015

Are SIP Phones Right For You?

INFOGRAPHIC ARCHIVE | SPONSORED INFOGRAPHIC ARCHIVE

HOT TOPICS

5G Faces Key Decisions in 2016 22
Carol Wilson, Editor-at-large, 1/4/2016

I believe this gentleman at AT&T is relating to that and the "advanced application" of technology that AT&T is using, driving, and creating. Moore's Law has become the symbol of technology advances (i.e., networking, virtualization, etc.), just as Silicon Valley is the symbol of technology ecosystems.

Good blog!

REPLY | POST MESSAGE | MESSAGES LIST | START A BOARD

inkstainedwretch,
User Rank: Lightning
1/6/2016 | 3:52:28 PM

Login
50% 50%

Re: Exceeding Moore's Law
Moore's Law is specific to semiconductors. It predicts that the number of transistors on a die of roughly the same size will double every 18- to 24 months. That has ramifications for processing power and also for storage -- but only *on-chip* storage. Don't get me wrong -- slashing the cost of network storage is an important accomplishment, worthy of crowing about. But it's a misuse of the terminology, especially at a time when some people who follow the chip industry are wondering if Moore's Law will hit a wall as silicon appears to be getting closer and closer to certain physical limits. I actually got excited by the headline. But then... -- Brian Santo

REPLY | POST MESSAGE | MESSAGES LIST | START A BOARD

Carol Wilson,
User Rank: Blogger
1/6/2016 | 3:25:43 PM

Login
50% 50%

Re: Exceeding Moore's Law
What do you think he thinks it means? I thought he meant that networks couldn't keep up with the ability to improve performance while decreasing cost at a Moore's Law pace but now they can. Am I off base?

REPLY | POST MESSAGE | MESSAGES LIST | START A BOARD

PAGE 1 / 2 > >>

Is the New York AG Off-Base on Broadband? 15
Pete Mastin, Product Evangelist, Cedexis, 1/5/2016

Say Hello to HaLow, the New WiFi Spec for IoT 12
Mari Silbey, Senior Editor, Cable/Video, 1/4/2016

Donovan: AT&T Beating Moore's Law 11
Carol Wilson, Editor-at-large, 1/6/2016

AT&T Deal Puts 4G in 10 Million New Fords by 2020 4
Dan Jones, Mobile Editor, 1/5/2016

UPCOMING WEBINARS

January 12, 2016
Personalized Subscriber Services for Mobile Operators

January 12, 2016
High-Speed Technology: 100G & Beyond

January 14, 2016
Multi-Domain Service Orchestration & Microservices Architecture, Solving the Transformation Challenge

January 19, 2016
Achieving Instantaneous Fault Tolerance for Any Application on Commodity Hardware

January 26, 2016
Don't Let Your Network Be a Security Leak

January 26, 2016
Applying NERC CIP v5 to Your Cybersecurity Strategy

January 27, 2016
Bring Life to Your Network Operations With Real-Time Orchestrated Service Assurance

January 28, 2016
Service Provider Transformation

WEBINAR ARCHIVE

BETWEEN THE CEOs - Executive Interviews

1/6/2016
Ericsson's Secret Cloud