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Comcast's third-quarter profit tumbled 22 percent on higher tax costs, but revenue rose sharply thanks to some hit films like "Minions" and its high-speed Internet services. The Philadelphia company earned \$2 billion, or 80 cents per share, which was in line with Wall Street expectations, according to a poll by Zacks Investment Research. Revenue jumped 11 percent to \$18.67 billion, breezing past analyst projections for \$17.97 billion.



A key driver of the cable provider's revenue boost came from an increase in high-speed Internet and business services. Overall, cable communications revenue rose to 6.3 percent to \$11.74 billion. Revenue from the NBCUniversal unit rose 21 percent to \$7.15 billion, driven by successful films including Minions and Jurassic World. Theme parks also contributed to revenue growth. "At cable communications, overall customer relationships increased 156,000, a 90 percent improvement

compared to last year, video subscriber results were the best for a third quarter in 9 years, high-speed Internet subscriber results were the best for a third quarter in 6 years, and churn across all product categories continues to improve, said Chairman and CEO Brian Roberts in a printed statement.

One day after the company said it would try to do away with its dual share stock structure, it declared a quarterly dividend of 25 cents, payable on January 27, 2016 to shareholders of record as of the close of business on January 6, 2016. Shares of Comcast Corp. rose 1 percent before the opening bell. They have risen 7 percent since the beginning of the year. – *New York Times*; [more in Philadelphia Inquirer](#); [from CNN, Comcast earnings show staying power of Big Media](#); [from Los Angeles Times, NBCU's profits jump 17%](#)

Monroeville Council in November likely will consider updates to the municipal zoning ordinance to regulate mini-cellphone towers. The planning commission on Oct. 21 recommended approving the changes. The proposal includes rules to cover distributed antenna systems. Often called "mini-cell towers," these communication facilities aren't regulated in the zoning ordinance, said Dan Cohen, of the Cohen Law Group in Sharpsburg. Such towers are often used to boost and improve cellphone reception.

The ordinance classifies that type of system as a cellphone tower, meaning companies looking to set them up in Monroeville would have to seek conditional-use approval in a process that includes public notice and hearings. Cohen wasn't aware of any of these facilities operating in Monroeville, but said this would give officials a say if communications companies attempt to install them. "It's better to have the ordinance on the books," he said. Cohen, a former Pittsburgh city councilman, founded his firm, which specializes in telecommunications, cable and broadband issues. Monroeville is

Op-ed from Alan Novak, BCAP political adviser and former PA Republican Party chairman; and T.J. Rooney, former PA Democratic Party chairman: Is compromise budget possible in Harrisburg?

paying Cohen's firm \$5,400 to draft the amendments, municipal manager Tim Little said. – *Monroeville Times Express*

An old problem at the core of the Internet is getting more attention, as a growing number of data breaches expose the Web's weaknesses. The security gap derives from a flaw in the language that expensive network routers use to figure out how to shuttle digital information to its destination. Machines rely on this chatter among the carrier-grade routers for a map of the Internet, and most network operators have the ability to recommend changes with little verification, leaving traffic vulnerable to bogus information.

This summer, torrents of traffic from U.S. carrier Level 3 Communications Inc. took a detour through Telekom Malaysia, disrupting service to millions of users. And in June, Two Sigma Investments LLC, a \$29 billion New York hedge fund, discovered some traffic destined for its unused Web addresses was claimed by a network operator registered in St. Petersburg, Russia, though the hedge fund said the event was little more than an inconvenience.

Engineers and security experts say attackers are increasingly using this method to manipulate Internet traffic. U.S. government officials worry that hackers with access to the right network equipment could do more serious damage by altering this map of routes, which is controlled by a language known as border gateway protocol, or BGP. "There's good evidence that people are playing serious malicious games with the routing table," said Steven Bellovin, a Columbia University computer science professor who investigated early Internet security loopholes at Bell Labs. "I think that the risks are very serious."

Using BGP flaws to trick carriers into rerouting their clients' data could let someone steal proprietary information, eavesdrop on confidential traffic or send information into cyber oblivion rendering it unreachable, according to security experts. The Internet is rife with all kinds of cyberattacks. Denial-of-service attacks—when assailants flood networks with junk traffic—make websites unavailable and are among the most common techniques. The number of such attacks more than doubled to 2,150 in the second quarter of 2015, according to network security provider Akamai Technologies Inc.

Lawmakers addressed fears over cyber attacks Tuesday with the Senate passing a bill Tuesday to encourage companies to share more information about compromised networks. Internet analysis firm Dyn Inc. says corporate clients are taking a deeper interest in BGP problems. Doug Madory, the firm's director of Internet analysis, says he sees as many as 20 of these events every day. Researchers have documented cases where data intended to travel just a few miles veered off on detours spanning continents. A 2012 Department of Homeland Security report found countries including China, Russia, Kazakhstan and South Korea had "announced" pathways to U.S. government networks that actually led back to foreign addresses.

BGP traces its roots to the 1980s, when digital communication was still nascent. Academic institutions that made up the early Internet developed the language to make it easier for machines to keep track of each other's networks. The system is based on the assumption that other parties can be trusted and as a result has few built-in checks. Engineers have been working on a solution that would add a verification process to changes to BGP's map of routes. Currently, anyone with a high-end router and a business-class broadband connection can suggest a better path for traffic, which often gets replicated across the world's network routers. The fix would encrypt each route change so a router could verify that an alteration came from a trusted source—a potentially pricey upgrade for Internet providers.

The solution—which is so complex that it has taken almost a decade to devise—is in its final stages of development but still might not be ready for years. "It's something that we

need to work on now and not wait until someone decides to launch something widespread and massive,” said security researcher Sandra Murphy, a specialist at defense contractor Parsons Corp., who co-chairs the group of engineers working on a fix. Misrouted Internet traffic is public and easy to spot, but its causes vary and many stem from programming mistakes. Telekom Malaysia said its June network outage began when a bad configuration cascaded through its network and on to routes that carried international traffic. Level 3 said the company has adopted corrective actions.

For Two Sigma, Russian network activity didn't interfere with any of its trading communication, which doesn't travel over the public Internet. The hedge fund was alerted to the June diversion by its cyber security firm. A Two Sigma spokeswoman said the incident “posed absolutely no threat to Two Sigma or its investors.” Other attacks look more suspicious. Last year, researchers at Dell SecureWorks found that an attacker had used this technique to siphon off at least \$83,000 in profits from virtual currencies like Bitcoin. The attacker had rerouted many of the paths used to claim the electronic currencies to network addresses in Canada. – **Wall Street Journal**

A number of Google Fiber customers in Kansas City lost service just before the first World Series game started. It came back, some said, about 7:30 p.m. Tuesday, but that was after Alcides Escobar hit an inside-the-park home run. “On Tuesday night, some Google Fiber customers in Kansas City experienced a service outage,” a Google representative said. “With the World Series playing, we know this was an important night for Kansas Citians, and we're sorry for the interruption. Our teams worked quickly to fix the issue, restoring service for most people within the hour. All service was restored by 10:15pm local time.”

In addition, before the start of the bottom of the fourth inning, Fox's national broadcast was disrupted. Viewers missed one at-bat, a Kendrys Morales strikeout. Mike Moustakas was at the plate when Mets manager Terry Collins ran out to have a conversation with home plate umpire Bill Welke and play was halted. Royals manager Ned Yost also came out to talk with Welke. According to MLB, the issue for the managers was that both teams were unable to view replays in their clubhouses, limiting their ability to decide whether to challenge a call on the field. The game continued and replays were restored to both dugouts via MLB's international feed.

According to Fox Sports: “Before the start of the bottom of the fourth inning of tonight's World Series Game 1, a rare electronics failure caused both the primary and backup generators inside the Fox Sports production compound to lose power. The issue was immediately addressed, although it resulted in the audience missing one at-bat ... We apologize for the interruption in tonight's coverage and are working to ensure that the remainder of the World Series is broadcast without incident.” – **Kansas City Star**



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