Get Plugged In

What the FCC's National Broadband Plan Means to Electric Utilities, Communications Companies and Their Customers

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How We Got Here

- In the *American Recovery and Reinvestment Act of 2009*, Pub. L. No. 111-5, §6001(k)(2)(D), 123 Stat. 115, 516 (2009), Congress directed the FCC to develop a national broadband plan to ensure that every American has access to broadband capability.
- On April 8, 2009, the FCC issued a Notice of Inquiry in General Docket No. 09-51 to "inform the development" of such a plan.
- Over the course of nearly one year, there were 36 public workshops, 9 field hearings and 31 public notices seeking comments on specific issues. Some 75,000 pages of comments were filed, although the FCC's broadband task force also augmented the record with its own research and data-gathering.

How We Got Here (cont'd)

- On March 16, 2010, the FCC was presented with the Plan by The Omnibus Broadband Initiative, a staff of experts that was brought in specifically and for the limited purpose of producing the Plan. No vote of the Commissioners to adopt the Plan was taken. The FCC, in turn, transmitted the Plan to Congress.
- The Plan itself contains no new rules or policies. Rather, the Plan contains goals, recommendations and benchmarks for measuring progress toward the goals.
- The Plan runs to 360 pages and is organized into 17 chapters. The Plan sees broadband as the next infrastructure in the progression from transcontinental railroads, electric grids, interstate highways, and radio, television and telephone networks.

How We Got Here (cont'd)

- According to the Plan, broadband is more than an infrastructure; it is an "ecosystem" that impacts every aspect of life in America in the 21st century. The Number 1 Goal of the Plan is for at least 100 million U.S. homes to have affordable access to actual download speeds of at least 100 megabits per second and actual upload speeds of at least 50 megabits per second by the year 2020.
- Other goals are for the U.S. to lead the world with the fastest and most extensive wireless networks; for schools, hospitals and local governments to have at least 1 gigabit per second broadband service; for public safety to have a wireless, interoperable broadband network; and for consumers to be able to use broadband to track and manage energy consumption.
- The FCC has promised to quickly publish a timetable of proceedings to implement the Plan's recommendations that are presently within its existing authority.

Overview for the Communications Industry

- Breathtaking in its breadth and reach
- Affects every segment of the communications industry
- MORE of everything, from regulation to federal funding to customers

Overview for the Communications Industry

SPECIFICALLY, the Plan suggests that the government can influence the broadband "ecosystem" in 4 ways:

(1) Design policies to ensure ROBUST COMPETITION, INNOVATION, and INVESTMENT

(2) Ensure efficient allocation and management of assets the government controls such as spectrum, poles, and rights-of-way to ENCOURAGE COMPETITIVE ENTRY AND NETWORK UPGRADES

(3) Reform current universal service mechanisms to support deployment of broadband and voice in high-cost areas and also ensure low-income Americans can afford broadband

(4) Reform laws, policies, standards and incentives to maximize benefits of broadband in sectors the government can influence significantly such as public education, health care and government operations.

Overview for the Communications Industry

(1) Design policies to ensure ROBUST COMPETITION...

- Lower Barriers to Entry to foster more competitors in the market
  - Lower the cost of network deployment
  - Make more spectrum available for new and existing wireless broadband providers
  - Make more data available about the market, including services offered, pricing and market penetration
  - Encourage broadband providers to construct networks (incentives?)
  - FCC will apply "appropriate remedies" where competition is lacking
  - FCC's "Preserving the Open Internet" NPRM
- More Transparency = Speed and performance will become increasingly important
  - New disclosure requirements and the Broadband performance "label"
  - Development of broadband performance standards – actual speeds and actual performance (no more "download speeds up to...")
  - FCC to collect more detailed and accurate data on actual availability, penetration, prices, churn and bundles

Overview for the Communications Industry

(1) Design policies to ensure .... INNOVATION and INVESTMENT

- More broadband-related R&D funding and incentives like tax credits
- More spectrum made available for research activities
- Focus on speed and quality of performance likely to create incentive for innovation

Overview for the Communications Industry

(2) "Ensure efficient allocation and management of assets government controls or influences, such as spectrum, poles, and rights-of way, to encourage network upgrades and competitive entry"

- Spectrum Initiatives
- Lower pole rental rates
- Simplified and expedited attachment process
- "Dig once" policy - append broadband development on to highway, road and bridge projects
- Reformed right-of-way policies
- WHAT DOES THIS MEAN FOR THE INDUSTRY? Attempted lower barriers to entry in the market towards more competition, but definitely more resolution

Overview for the Communications Industry

(3) "Reform current universal service mechanisms to support deployment of broadband and voice in high-cost areas; ensure that low-income Americans can afford broadband; support efforts to boost adoption and utilization"

- Goal: Achieve "National Broadband Availability Target" = broader customer base than ever before
- Connect America Fund – will support the provision of affordable broadband service to all Americans
  - Only one provider per targeted geographic are
  - Financial support will be available to both incumbent and new companies
  - Recipients of support will be subject to enforceable deadlines for achieving universal access
- Mobility Fund – will be used to provide targeted funding to ensure no states are lagging significantly behind the national average for 3G wireless coverage
- Universal Service Fund will be transitioned to broadband rather than traditional telephone-only service
- Offer spectrum licensing conditioned on providing free/low cost service
- National Digital Literacy Corps will be launched to teach digital literacy skills

Overview for the Communications Industry

(4) "Reform laws, policies, standards and incentives to maximize the benefits of broadband in sectors government influences significantly, such as public education, health care and government operations"

- There is potential for enormous opportunities in the following industries:
  - Health care
  - Education
  - Clean energy/smart grid
  - Economic development – job training, placement, small businesses
  - Government performance/civic engagement
  - Public safety and homeland security
- The Plan suggests incentives and investments to support the growth and development of broadband use in these industries, such as reducing regulatory barriers which inhibit the adoption of IT solutions and making all public information available online.

Overview for the Communications Industry

- Challenges for the industry
  - Increased regulation will lead to additional compliance obligations and expenses – Title II regulation likely
  - New privacy requirements, performance monitoring and reporting requirements could become very costly
  - Modernization of accessibility laws and rules could result in increased costs
  - Heightened competition based on standardized performance benchmarks and emphasis on wireless
  - The 1996 Telecommunications Act Redux

Overview for the Communications Industry

- The Bottom Line
  - The Plan seeks to be a game-changer
  - Shadows the push to build new broadband infrastructure
  - Regulatory and compliance costs likely to grow
  - Approximately 40 rulemakings
  - No specific discussion of plan to fix the FCC
  - Subject to changes in political winds

Impact on Utility Infrastructure

- Chapter 6 is the chapter on Infrastructure, meaning public roads, bridges, poles, conduits, ducts, rights-of-way, rooftops and tunnels. The Plan states that, "[c]ollectively, the expense of obtaining permits and leasing pole attachments and rights-of-way can amount to 20% of the cost of fiber optic deployment." (As authority for this somewhat astounding assertion, the Plan cites its own authors, The Omnibus Broadband Initiative, and its "forthcoming" paper in endnote 3.)

- The Plan recommends:
  - **6.1 The FCC should establish rental rates for pole attachments that are as low and close to uniform as possible, consistent with Section 224 of the Communications Act of 1934, to promote broadband deployment.**
    - "Uniform" refers to the fact that there are different rates for the same space on a pole, based solely on the regulatory classification of the attaching provider, a fact which "distorts attachers' deployment decisions."
    - "As low as possible" means the present cable rate formula, which has been held to be just and reasonable and fully compensatory to utilities.
    - "Through a rulemaking, the FCC should revisit its application of the telecommunications carrier rate formula to yield rates as close as possible to the cable rate in a way that is consistent with the Act."

Impact on Utility Infrastructure (cont'd)

- **6.2 The FCC should implement rules that will lower the cost of the pole attachment "make-ready" process.**
  - The FCC should, through rulemaking:
    - Establish a schedule of charges for the most common categories of work (such as engineering assessments and pole construction);
    - Make rules that allow use of boxing, extension arms, and other space- and cost-saving techniques, consistent with the pole owners' use of those techniques;
    - Allow the use of utility-approved and certified third-party contractors to perform all engineering assessments and communications make-ready work as well as independent surveys, under the joint direction and supervision of the pole owner and new attacher;
    - Require existing attachers to move their facilities within a specified time, such as 30 days, by adopting mandatory timelines and rules allowing the pole owner or new attacher to move the facilities if the timeline is not met;
    - Link make-ready payments to the actual performance of the work, rather than requiring all payment up front.

Impact on Utility Infrastructure (cont'd)

- **6.3 The FCC should establish a comprehensive timeline for each step of the Section 224 access process and reform the process for resolving disputes regarding infrastructure access.**
  - Through rulemaking, the FCC should establish a federal timeline that covers each step of the pole attachment process, from application, through make ready, to final permit, and for certifying wireless equipment for attachment.
  - The Plan notes "significant flaws" in the present dispute resolution process:
    - The attacher bears the burden of filing a formal complaint;
    - The rules do not provide for compensation "from the time of the injury;"
    - The case may linger for years. (The Plan does not mention that the FCC's web site shows 4 pole attachment cases pending before it, two of which have been pending since 2006).
  - To improve dispute resolution, the FCC should consider:
    - Creating specialized pole attachment dispute resolution forums and processes;
    - Adopting target deadlines for resolution;
    - Requiring utilities to post standards and adopt procedures for resolving safety and engineering disagreements;
    - Encouraging appropriate state processes for complaint resolution;
    - "Awarding compensation that dates from denial of access." (We think this means **damages** for delayed access, wholly apart from rental rate recalculation See 6.5 below.)

Impact on Utility Infrastructure (cont'd)

- **6.4 The FCC should improve the collection and availability of information regarding the location and availability of poles, ducts, conduits and rights-of-way.**
  - In order to lower costs and accelerate the buildout of broadband facilities, the FCC should ensure that information about utility poles and conduits is up-to-date, readily accessible and secure and that the costs and responsibility of collecting and maintaining data are shared equitably by owners and users of this information.
  - Participation of all pole owners subject to § 224 and attaching parties in any such database effort could be regulated and streamlined. The database:
    - Should be easily searchable;
    - Should identify the owner of the pole;
    - Should contain up-to-date records of attachment and make-ready work that has been performed. (Conduit records should note whether there is space available.)
    - Must be regularly updated, secure and accessible.

Impact on Utility Infrastructure (cont'd)

- **6.5 Congress should consider amending Section 224 of the Act to establish a harmonized access policy for all poles, ducts, conduits and rights-of-way.**
  - The Plan notes that "[a]s previously discussed, without statutory change, the convoluted rate structure for cable and telecommunications providers will persist." Actually, the discussion of the rate structure under 6.1 calls for the FCC to revisit the rate structure "consistent with § 224." This comment implies, however, that § 224 should be amended to create only one pole attachment rate formula. (Endnote 8 also seems to open the door to including ILECs under the rate structure.)
  - The Plan notes that, because of present exemptions to the FCC's § 224 jurisdiction (for poles that are owned by municipal utilities, cooperatives and utilities in states that have reverse-preempted the FCC), a reformed FCC regulatory regime would reach only 49 million of the nation's 134 million poles. The Plan therefore recommends revision or replacement of § 224 with a harmonized and simple national framework that:
  - All poles, ducts, conduits and rights-of-way be subject to a regulatory regime addressing a minimum set of criteria established by federal law.
  - All broadband service providers, whether wholesale or retail, have the right to access pole attachments, ducts, conduit and rights-of-way based on reasonable rates, terms and conditions.
  - Infrastructure access be provided within standard timelines established by the FCC, **and that the FCC has the authority to award damages for non-compliance**.
  - The FCC has the authority to compile and update a comprehensive database of physical infrastructure assets.

Impact on Utility Infrastructure (cont'd)

- **6.6. The FCC should establish a joint task force with state, Tribal and local policymakers to craft guidelines for rates, terms and conditions for access to public rights-of-way.**
  - The Plan notes that governmental entities control rights-of-way that are important for broadband deployment. The Plan recommends creation of a joint task force to:
  - Investigate and catalog current state and local rights-of way practices and fee structures, building on NTIA's 2003 compendium and the 2002 NARUC Rights-of-Way Project.
  - Identify public rights-of-way and infrastructure policies and fees that are consistent with the national public policy goal of broadband deployment and those that are inconsistent with that goal.
  - Identify and articulate rights-of-way construction and maintenance practices that reduce overall capital and maintenance costs for both government and users and that avoid unnecessary delays, actions, costs and inefficiencies related to the construction and maintenance of broadband facilities along public rights-of-way.
  - Recommend appropriate guidelines for what constitutes "competitively neutral," "nondiscriminatory" and "fair and reasonable" rights-of-way practices and fees.
  - Recommend a process for the FCC to use to resolve disputes under Section 253. Creating a process should expedite resolution of public rights-of-way disputes in areas either unserved or underserved by broadband.
- The FCC should request that the task force make its recommendations within six months of the task force's creation.

Energy & the Environment (Ch. 12)

- 12.1 Broadband and the Smart Grid
- 12.2 Unleashing Innovation in Smart Homes and Buildings
- 12.3 Sustainable Information and Communications Technology
- 12.4 Smart Transportation

Broadband and the Smart Grid

- The Federal Communications Commission (FCC) should start a proceeding to explore the reliability and resiliency of commercial broadband communications networks.
- States should reduce impediments and financial disincentives to using commercial service providers for Smart Grid communications.
- The North American Electric Reliability Corporation (NERC) should clarify its Critical Infrastructure Protection (CIP) security requirements.

Broadband and the Smart Grid

- Congress should consider amending the Communications Act to enable utilities to use the proposed public safety 700 MHz wireless broadband network.
- The National Telecommunications and Information Administration (NTIA) and the FCC should continue their joint efforts to identify new uses for federal spectrum and should consider the requirements of the Smart Grid.
- The U.S. Department of Energy (DOE), in collaboration with the FCC, should study the communications requirements of electric utilities to inform federal Smart Grid policy.

Unleash innovation in smart homes and smart buildings

- States should require electric utilities to provide consumers access to, and control of, their own digital energy information, including real-time information from smart meters and historical consumption, price and bill data over the Internet. If states fail to develop reasonable policies over the next 18 months, Congress should consider national legislation to cover consumer privacy and the accessibility of energy data.
- The Federal Energy Regulatory Commission (FERC) should adopt consumer digital data accessibility and control standards as a model for states.

Unleash innovation in smart homes and smart buildings

- DOE should consider consumer data accessibility policies when evaluating Smart Grid grant applications, report on the states' progress toward enacting consumer data accessibility and develop best practice guidance for states.
- The Rural Utilities Services (RUS) should make Smart Grid loans to rural electric cooperatives a priority, including integrated Smart Grid-broadband projects. RUS should favor Smart Grid projects from states and utilities with strong consumer data accessibility policies.

Accelerate Sustainable ICT

- The FCC should start a proceeding to improve the energy efficiency and environmental impact of the communications industry.
- The federal government should take a leadership role in improving the energy efficiency of its data centers.

Smart Transportation

- Broadband and advanced communications infrastructure will play an important role in modernizing various transportation systems by making them safer, cleaner and more efficient.

Spectrum Provisions

"Bandwidth Is the New Black Gold:
And it's a scarce resource"
- *Time*, March 22, 2010

"Given the potential of wireless services to reach underserved areas and to provide an alternative to wireline broadband providers in other areas, ***the Commission's primary tool for promoting broadband competition should be freeing up spectrum****."*
--U.S. Department of Justice, (Letter to FCC dated Jan. 4, 2010)

"The growth of wireless broadband will be constrained if government does not make spectrum available to enable network expansion and technology upgrades.

"[S]carcity of mobile broadband could mean higher prices, poor service quality, an inability for the U.S. to compete internationally, depressed demand and, ultimately, a drag on innovation."
- FCC, "*America's Plan",* page 79

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Spectrum Provisions

- America's Insatiable Demand for Wireless
  - Wireless Phones, Smart Phones, Linked Personal Computers—all use spectrum
  - Huge Increases in Use:
    - In 2009, North American wireless networks carried 17 petabytes (each a million gigabytes) of data per month (equivalent to contents of 1,700 Libraries of Congress)
    - By 2014, a forty fold increase to 740 petabytes per month expected
  - 33% of mobile users now use some form of smart phone, which generates thirty times more data traffic than a traditional phone
  - Number of cell sites exploded from 1994-2000 from 18,000 to 80,000

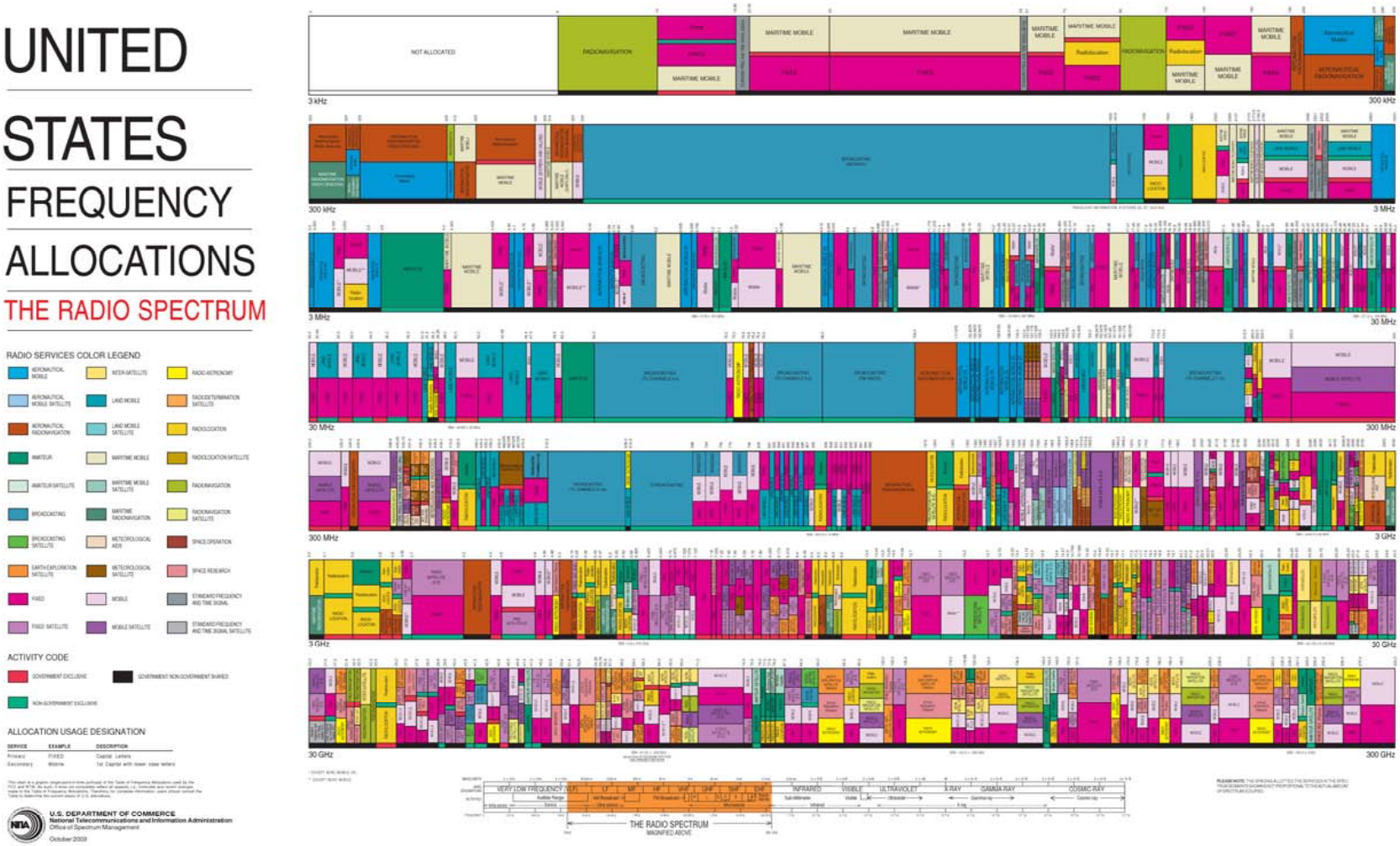
Spectrum Provisions

- Technology Will Not Be Able to Keep Up With Demand, Thus Spectrum Will Grow Scarce
- When Spectrum Grows Scarce
  - First wave:
    - busy networks
    - slow connections
    - dropped calls
    - delay, or complete inability to access requested data
  - Second wave:
    - profiteering (providers charge more for high data use)
    - higher charges for priority calls or guaranteed bandwidth

Spectrum Provisions

- New Capacity Must Be Driven By The Federal Government, which Owns All Radio Spectrum
  - NTIA--regulates federal government spectrum users
  - FCC—regulates all other users
    - FCC's Universal Licensing System contains over two million licenses, in 30 categories from AM/FM to industrial microwave licenses to PCS
    - Old spectrum allocation chart (next slide) replaced by interactive "dashboard" available at http://reboot.fcc.gov/reform/systems/spectrum-dashboard

Spectrum Provisions



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Spectrum Provisions

- Broadband Plan Proposes Freeing 500 MHz of Spectrum by 2020, including 300 MHz for mobile broadband use by 2015
  - Areas targeted for 300 MHz, either by rule change (allowing different uses) or by spectrum grab
    - 120 MHz from broadcast television (by further consolidating or regaining certain channels through incentives or fees)
    - 90 MHz from Mobile Satellite Spectrum
    - 60 MHz from Advanced Wireless Services Band (including 20 from federal government use)
    - 20 MHz from Wireless Communications Service
    - 10 MHz from Upper 700 MHz D Block (which was put up for auction, but had no winner in 2008)

Spectrum Provisions

- Expand Flexible Use
  - Revise rules to allow for expanded spectrum sharing by compatible point-to-point microwave services
  - Permit new uses in existing bands (see above)
  - Permit flexible radio devices that find open spectrum
- Further Develop Secondary Markets
- Develop nationwide, contiguous band for unlicensed use

Spectrum Provisions

- Clearing Spectrum: The Carrot and the Stick
  - Incentive Auctions
    - Incumbent licensees receive a portion of proceeds from sale of their licensed spectrum
    - Could be designed as an e-bay-style system between buyers and sellers, or could be a part of a typical FCC auction
  - Spectrum Use Fees
    - "Many spectrum licensees have inflexible licenses that limit the spectrum to specific uses. These licensees do not incur opportunity costs for use of their spectrum; therefore, they are not apt to receive market signals about new uses with potentially higher value than current uses.
    - "One way to address these inefficiencies is to impose a fee on spectrum, so that licensees take the value of spectrum into account. Congress should grant the FCC and NTIA authority to impose spectrum fees, but only on spectrum that is not licensed for exclusive flexible use."

Spectrum Provisions

- Get ready:
  - "NTIA and the FCC, as co-managers of spectrum, should develop a plan by October 1, 2010 to identify additional federal and non-federal spectrum that can be made accessible for wireless broadband use.
  - "All of the non-federal and federal spectrum, not just certain bands, must be closely examined for possible reallocation."
  - Electric utilities and other business pool radio users, railroads, broadcasters, all stand to lose spectrum, be subject to spectrum use fees or be subject to spectrum sharing.

Any Questions?

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