

Gigabits v. Megabucks

International Summit on Communications/Media

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About Balhoff & Williams

Balhoff & Williams, LLC, is a specialized professional services organization focused on providing financial and regulatory advice regarding the communications and energy industries. The principals of the firm have more than thirty years of combined experience in advising investors, companies and policymakers on complex investment, transactional and policy issues. The principals of Balhoff & Williams have extensive experience serving the telecommunications industry, including RBOCs, independent incumbent LECs, competitive carriers, and wireless operators, with particular expertise related to rural telephone providers. Additionally, we specialize in energy and other utility services industries. Our firm offers an unparalleled combination of experience, credibility, strategic insight and access in a rapidly changing environment.

Michael J. Balhoff, CFA, Managing Partner
Michael J. Balhoff, CFA, is managing partner at Balhoff & Williams, LLC. Previously, Mr. Balhoff headed for 16 years the Telecommunications Equity Research Group at Legg Mason, and covered equities of incumbent local exchange carriers. Prior to joining Legg Mason in 1989, Mr. Balhoff held posts as a graduate and undergraduate professor. He has a doctorate in Canon Law and four master's degrees, including an M.B.A., concentration in finance, from the University of Maryland. A Chartered Financial Analyst and a member of the Baltimore Security Analysts Society, Mr. Balhoff has been named on six occasions as a *Wall Street Journal* All-Star Analyst for his recommendations on stocks in the Telecommunications industry. His coverage of telecom, and especially rural telecommunications, was named by *Institutional Investor* as the top telecommunications boutique in the country in 2003. He has also testified multiple times before congressional committees, is regularly a featured speaker at conferences for investors and policymakers, and is widely quoted in the media, including television, newspapers as well as communications and business journals.

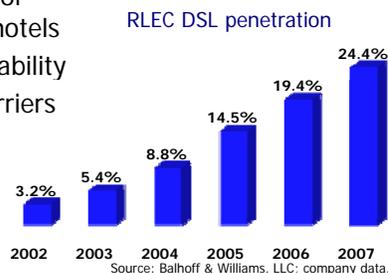
Bradley P. Williams, Esq., Partner
Bradley P. Williams joined the firm as a principal in 2005 and was named partner in 2007. Previously, Mr. Williams was a member of the Strategic Planning & Business Development group at Lowe's Companies Inc., the Fortune 50 home improvement retailer. Prior to joining Lowe's, Mr. Williams worked with Mr. Balhoff in the award-winning Telecommunications Equity Research Group at Legg Mason, focusing on incumbent and rural local exchange carriers. Prior to joining Legg Mason, Mr. Williams was a co-founder of eSprocket / Beachfire, a venture-backed company that evolved into one of the pioneers in mediation technology solutions for the financial services sector. Previously, he served as a financial executive for a Washington, D.C.-based holding company that integrated, through acquisitions, a significant regional freight rail network. Brad began his career as an investment banker in First Union's Capital Markets Group. He has a BA in Economics from the University of North Carolina and a JD from the University of North Carolina School of Law.

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- Purpose
 - Consider whether and how UBB will be financed
 - Evaluate whether private investors will support competing UBB systems
 - Opine about the importance/likelihood of government investment/guarantees
- Fundamental investor framework
- Rural financial framework
- Upcoming policy uncertainties
- Summary

- Simple investor framework addressing *whether* investors will support UBB involves
 - Analysis of investment and operating costs
 - Size of the addressable market opportunity
 - Probability that consumers will perceive enough value to purchase services
- Situational analysis
 - Services that require UBB are not pervasive
 - Network investment costs remain high and will be incurred incrementally
 - Revenue model will not support pervasive high network/operating costs
 - Assume that UBB network costs are approximately consistent with FTTP builds
 - Higher core network requirements
 - Selective deployment will occur over next 5-10 years—driven by financial realities
- Realities
 - Denser and affluent geographies will benefit first
 - Less dense regions—rural markets—will trail by 3 to 7 years
 - Investors will assume no public funding/support
 - Technologies, content, and applications are major drivers of network expansion

- RLECs report high-speed data availability of approximately 70%-90%
- Network investment is 150%-200% higher than in urban areas
 - Current focus on compression-based technologies to extend life of copper plant
 - Approximate loop lengths for 88% of independent telco properties are <18kft
 - Loop lengths of remainder are between 18kft and 40kft
 - Rural loop capex of \$50k-\$55k/mile for small projects; \$35k/mile for larger projects
 - Generally 60% of mid-size carrier DSL services can be provisioned at 6-10 Mbps
- Backhaul (operating) costs tend to be 3x or greater than those reported by larger carriers because of the distance from drains or carrier hotels
- Low median income/computer availability
- Bottom line is that investors and carriers in rural regions are not likely to deploy UBB to any great extent in the next 5-10 years
- The UBB model will be proven in the urban regions



- Trends regarding government financial support
 - Anti-public investment/support
 - Pressures on USF from Congress
 - FCC has been/is committed to capping USF
 - Proposed FCC reforms of USF/intercarrier compensation
 - Draft order proposes 75% of independent telco industry will lose support in access reform
 - Draft order proposes 100% broadband within 5 years, but with lower implicit/explicit support
 - Pro-public investment/support
 - USF high-cost loop funding (slightly above \$1 billion)
 - Municipal networks
 - Municipalities committed to HFC or fiber to the premises: Ashland (OR), Kutztown (PA), Tacoma (WA), Harlan (IA), Cedar Falls (IA), Marietta (GA), Bristol (VA), Utopia (UT), Braintree (MA), Lafayette (LA), Memphis (TN), Chattanooga (TN), Burlington (VT)
 - Generally, controversial and/or failed
 - Problems associated with high network costs, insufficient numbers of subscribers, cross subsidies
 - Some argument for ubiquitous networks based on international "successes"
- Realistic assessment
 - Technology remains a major competitive driver and shaper of industry
 - Private enterprise must evaluate/deploy
 - Relatively minor levels of government support is/will be available