



Introductions and Welcome

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**TFI Communications Technology
Asset Valuation Conference**

January 29-30, 2014

Radisson Downtown
Austin, Texas

13740 Research Blvd., Bldg. C-1 • Austin, Texas 78750
(512) 258-8898 • www.tfi.com

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Housekeeping

- Welcome and Introductions
- Lunch and Reception
- Continuing Professional Education Credits
- Evaluation Sheets
- Professional Recording
- Changes for Conference for 2014

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DATA CENTERS

2 — 9:00 am – **Technology Changes in Data Centers**

Mark Murrill, Director Marketing Enterprise and 400V DC,
Emerson Network Power

— 9:50 am - Break

3— 10:05 am – **Implications for Data Center Assets**

Kelli Batianis-DiPietro, Time Warner-Cable

Alan Schultz, Paradigm Tax Group

Pat Lynch, CBRE

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VALUATION ISSUES I

4 — 10:45 am – **Implications of Elk Hills Power**

Jerome Weinert, AUS Consultants (Moderator)

Peter Michaels, Attorney, Law Office of Peter Michaels

Ruben Miranda, Duff & Phelps

— 11:20 am – Break

5 — 11:30 am – **LTE, The Technology that Killed the Cat:
Lessons from MetroPCS and Cricket**

Joe Molina, Ryan (Chair)

Jason Butterworth & Jason Chao, Ernst & Young

Allison Garton, Cricket Communications

Stephen Yergeau, T-Mobile

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LEGACY NETWORKS

6 — 12:05 pm – **Transforming the Local Exchange Network**

Lawrence Vanston, TFI

— 12:30 am – **Lunch** (provided by TFI)

7— 1:30 pm – **Transition from TDM to All-IP Network**

Bob McKnight, Cost Quest

The Cost of Running the Legacy Network and the Outlook for Shutting it Down, **Charles Burkhardt**, CostQuest

8 — 2:00 pm – **CAPEX Is Now, but OPEX is Forever**

Kermit Ross, Network Design Decisions Inc.

— 2:20 pm – *Break*

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WIRELESS

9 — 2:30 pm – **5G Cellular: How and Why It Will Differ from 4G**,
Dr. Jeffrey Andrews, Professor, Department of Electrical and
Computer Engineering, University of Texas at Austin.

— 3:30 am – *Break*

10— 3:40 pm – **Wireless Industry Panel**

Gary Wiggins, AT&T

Mike Heaton, Duff & Phelps (for Sprint)

Stephen Yergeau, T-Mobile

Michael Mupo, Verizon

11— 4:20 pm – **TFI Wireless Forecast Update**, **Ray Hodges**, TFI

— 4:35 pm – *Break*

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VALUATION ISSUES II

12— 4:40 pm – **Applying Forecasts and Cost Studies in Times of Big Change**

Jim Dombrowski, Verizon

Lawrence Vanston, TFI

Don Jackson, DuCharme, McMillen & Associates

Ken Love, Assistant Attorney General, Tax Section, State of Arizona

Robert Davis, Utah Division of Public Utilities

— **5:30 pm** – *Day Ends*

— **6:00 pm** – *Lake View Reception (Onsite)*

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BROADBAND & VIDEO

CONFERENCE DAY 2: Thursday, January 30, 2014

13— 8:30 am – **GigaBit Broadband: Could It/Will It/Should It Change the World, and If So, How?** **Dr. William Lehr**, Research Scientist, Computer Science and Artificial Intelligence Laboratory, Massachusetts Institute of Technology

14— 9:30 am – **Rolling Out Gigabit: Status and Economic**, **Jim Stegeman**, CostQuest Associates

— 10:00 am – Break

15— 10:15 am – **Forecast of Online Video and Gigabit Access**, **Lawrence Vanston**, TFI

16— 10:30 am – **Impacts on Cable HFC Networks**, Robert Harris, TFI

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17— 10:55 am – **Google Fiber: Myths, Means and**

Motives – Panel

Lawrence Vanston, TFI (Chair)

William Lehr, Massachusetts Institute of Technology

Robert Harris, TFI

Jim Stegeman, CostQuest Associates

— 11:30 am – Break

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VALUATION ISSUES III

18— 11:45 am – **Trending in Today's Communications World**

Christian Altenburger, Comcast (Chair)

Carl Hoemke, Duff & Phelps

Jim Stegeman, CostQuest Associates

Jeff Binkley, Deloitte

19— 12:20 pm – **Closing Remarks**

Lawrence Vanston, TFI

— 12:30 pm – Conference Ends

— 12:30 pm – **Box Lunch and Discussion**

— 1:20 pm – Lunch Ends

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TFI News and Overview

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Communication Assets Outlook

Trends and developments impacting the technology assets of the communications industry

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**Communications Technology
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Below are bio links and slides for the *TFI Communications Technology Asset Valuation Conference, January 29-30, 2014, in Austin Texas*. We will post bios and presentations as we receive them. Please contact conference@tfi.com for more information.

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Communication Assets Outlook

Trends and developments impacting the technology assets of the communications industry

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Wireless Assets Summary

The wireless communications industry is highly dynamic. Key characteristics:

- Rapidly increasing demand for data due to smart phones, ipads, etc., straining both radio technology and radio spectrum.
- Large and continuous investment in new technology to keep up with demand.
- Overlapping lifecycles of generations of wireless technology, the current generation being 4G and the next 4G Advanced. [Forecasts](#)
- Short asset lives due to rapid replacement by new technology offering greater capacity and more efficient use of scarce radio spectrum.
- Functional and economic obsolescence due to increasing efficiency of new equipment and falling equipment prices
- Competitive environment rewarding players that meet customers' needs and punishing those who don't. Successful investment in technology earns the right to do it again.

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Wireless Presentations

TFI Communications Technology Asset Valuation Conference

2013 Featured Speaker



The Evolution of Broadband Mobile [\[Slides\]](#)

Mark Lowenstein, Managing Director, MobileEcosystem

2013 Wireless Panel

- Sprint's Network Vision Initiative - Update [Michael Heaton](#), Director, Duff &

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Communication Assets Outlook

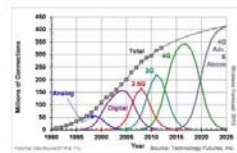
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Wireless Forecasts

TFI 2013 Industry Wireless Generations Forecast



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