Utilicoms in the U.S. Market: Outside of the Telecom Bubble

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Agenda

- U.S. Utilicom In Perspective
- The Evolving Business Case: Why Utilities Enter Telecom
- Utilicom Taxonomy, Data and Trends
- The Challenge of Moving Along The Telecom Value Chain
- The Juncture in 2002: Utilicom End Games

U.S. Utilicom In Perspective

Utilities That Have Ventured Into the Telecommunications Industry Likely Have Suffered Set-backs Against Their Business Plans. Their Value, However, Is Not Completely Eroded With the Bursting of the Telecom Bubble

- Compared to many telecom ventures, most utilities have taken a relatively conservative approach to investment in telecom assets and businesses, albeit reflecting the exuberance of the marketplace
  - Most utilities operate in low risk / low reward quadrant (*e.g.*, dark fiber, non-speculative lit fiber)
  - Utilicoms are financed with utility cash and low levels of debt
  - Networks were frequently built on a non-speculative basis, with customers signed-up before construction

- The most notable declines in shareholder value in the telecommunications sector overall have stemmed from:
  - Aggressive acquisitions at inflated prices
  - Overly optimistic build-outs of network and related facilities
  - Inappropriate accounting treatment of revenue, capacity swaps and values of good will*

* Examples of the statement of revenues to reflect potentially higher values than actual in the reported period include investigations into Global Crossings, Qwest and Enron.

Changes in Business Fundamentals, Of Course, Has Reduced the Value of Utilicoms to Varying Degrees

- The decline in the market values of telecom sector equity and debt has led Wall Street analysts and utility executives to reduce their optimism concerning utilicom
  - Merrill Lynch's analysis of utility "hidden gems"* has been superceded by more current sector realities
  - Utility executives have begun to focus on core and related lines of business and may consider telecom diversionary

- Financial analyses will need to be re-run to adjust many assumptions to reflect current conditions
  - Wholesale transport prices have declined dramatically
  - Traffic is not increased at its projected exponential levels**
  - Gluts in capacity developed in many transport and metro areas***
  - Competitive threats, while not unrecognized, were frequently foreshadowed by exponential demand growth projections
  - Asset and business valuations were based on unreasonably optimistic multiples

* Merrill Lynch & Co. Global Securities Research & Economics Group, Global Fundamental Equity Research Department, Electric Utilities Report, Hidden Gems - Part I, May 11, 1999.

** Traffic forecasts were nearly unanimously optimistic with manufacturers, industry economists and Wall Street analysts all expecting these levels of demand. The slow development of Last Mile connections, combined with the lack of honed applications and a weakened economy may explain in part the deration from expectations.

*** While Last Mile deployment has been slow.

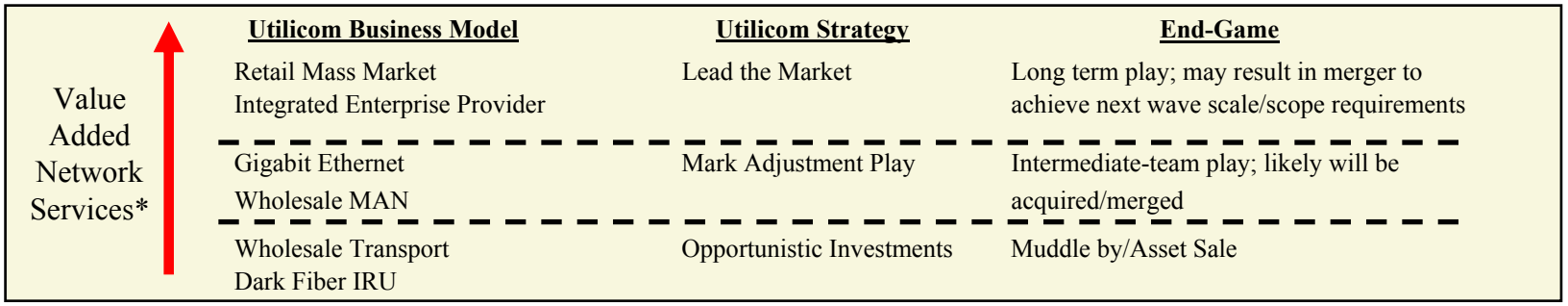
The Piercing of the Telecom Bubble Has Provided the Impetus for Utilities to Re-examine Their End Games for Affiliated Utilicoms

- For most utilities, the end-game for utilicom remains undefined
  - Utilicoms were and remain ancillary to a utility's core lines of business
  - Many utilities entered the telecom market as followers
  - Business decisions for utilicoms were based on clearance of utility hurdle rates, not strategic initiatives
  - Executive management groups believed that telecom ventures (through facilities, joint ventures or affinity marketing) provided a learning experience for the competitive retail energy markets that would accompany deregulation

- The attention given to the current telecom market conditions has resulted in executive management groups as well as Boards of Directors querying the strategic fit of a telecom business

- Determining the utilicom end-game requires a combination of qualitative strategic visioning and rigorous quantitative economic analysis
  - Such analysis requires developing a "view of the world" with respect to applications and technology, demand and customers and competitors
  - Analysis also requires a bottom-up assessment of specific telecom geographies
  - The fit of utilicom with overall utility vision and goals, though less quantitative, is a critical component of developing an end-game

Focus on End-game, Along With Fundamental Market Realities, Will Result in Industry Consolidation and Greater Clarity in Utilicom Business Models



* May represent a cumulative service offering

- Most utilicoms now realize that operating in the dark fiber and wholesale transport space is an unstable proposition
  - Dark fiber IRUs generally are immediately accretive but offer minimum prospects for growth.
  - Wholesale transport has become a commoditized business
- Movement along the telecom value chain is critical to achieving sustainability, although such migration is much more difficult than utilicoms initially realized; many will opt out of this path, selling off assets to other utilicoms and/or pure play telecoms or CATVs

Public Power Utilities Involved In Telecom May Be Less Affected (Than IOUs) by Declines in Demand and Transport Pricing

- While municipal and cooperative electric utilities are conscious of financial feasibility, the scope of the mission of public power frequently expands beyond mission critical economics*
  - Electric cooperatives frequently view themselves as unofficial "providers of last resort"** for many services that investor-owned providers (*i.e.*, telephone companies and/or cable television companies) deem as uneconomical
  - Coops are experienced and efficient concerning provision of services to low-density rural areas
  - Some municipal and cooperative electric utilities have expanded their charters to include the delivery of broadband, cable television and other services
  - Public power utilities are non-profit entities and have access to financing with preferential rates

- CATV and broadband providers frequently view public power entry into these markets as unfair and anti-competitive, because of coop access to preferred financing, among other considerations

* The city of Glasgow, KY's Electric Plant Board (EPB) first received attention in this area in 1988 when it began construction of a municipally-owned broadband network. Since then, Glasgow's EPB has offered cable television and communications services, acquired CATV plant from Comcast (2001) and has been awarded the *Most Innovative Cable Company* title by Interactive Week magazine. Other municipal electric systems, such as the Los Angeles Department of Water and Power (LADWP) provide carrier's carrier wholesale transport services and are considering deploying facilities to retail customers. Electric Cooperatives have also entered the telecommunications market, providing either choice or primary service to rural areas.

** Electric utilities that provide facilities-based telecom do not become telephone cooperatives (such as those included as members of NTCA) and do not have POLR obligations as do ILECs, RLECs or telephone coops.

Specific Opportunities* for Utilities in Telecom Still Exist, but Are More Geographic and Segment Specific Than Ever

- While demand for broadband has not materialized as robustly as projected, capacity is needed to critical areas of connectivity
  - Broadband demand in the Last Mile continues to go unmet
  - Broadband demand in the Next-To-Last-Mile (*e.g.*, metro rings) in many Tier 3 and 4 markets is provided only by ILECs or RLECs with frequently outdated facilities
  - Transport capacity in many rural areas lack provider and route diversity, and in spots are in need of capacity upgrades

- Utilicoms may also be positioned to capture unserved markets with technological solutions
  - Internet Protocol (IP) networks provide scalability not available in TDM networks
  - Gigabit Ethernet service is highly attractive to SMEs from a cost and service standpoint

- Reduced asset valuations for telecom properties provide opportunities for utilicoms with plans for expansion through asset acquisition

The Evolving Business Case:
Why and How Utilities Enter Telecom

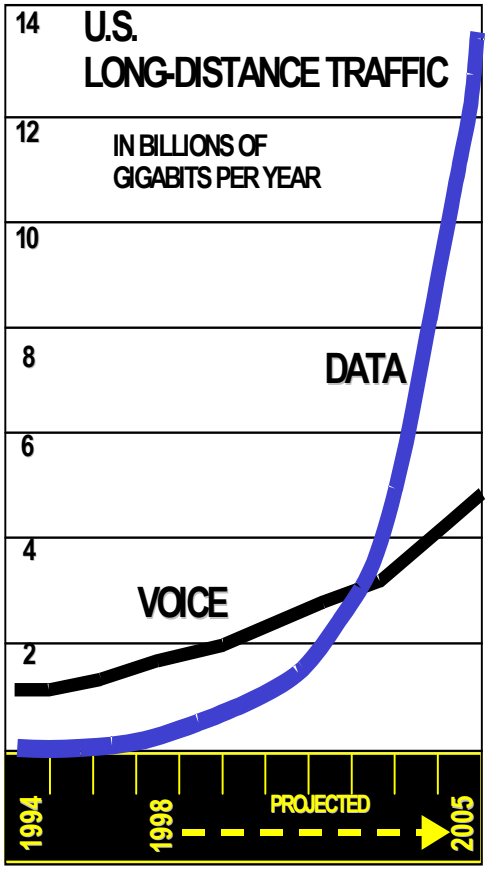
The Historic Reasons Behind Utility Venture Into Telecom and the Rationale for Continuing, Expanding or Entering Telecom Likely Will Be Quite Different

- Early pursuers of utilicom entered through a gradual evolution and/or through recognition of multi-use nature of ROWs; they also began ventures when the supply of regional and long-haul fiber capacity was low
  - Montana Power (Touch America) began its network deployment in order to provide fiber capacity to more effectively manage its vast utility operation*
  - Williams began running fiber optic cable through decommissioned natural gas pipelines in 1986**
- Successive generations of utilicoms followed the examples of MTP and Williams; many achieved varying levels of success, but many others were providing commoditized services
  - Many did not recognize the differences in circumstances and timing that applied to MTP and Williams
  - Others chose a timed approach to telecom, assuming that they could accelerate entry later
  - Most utilities regard themselves as preeminent infrastructure developers and have an inflated sense of brand worth
  - Several U.S. utilities believed energy and telecom represent an obvious bundle of consumer services

* Montana Power sold its utility distribution assets to NorthWestern Corp. in 2002, while retaining Touch America (TAA), thus shifting to a focus in its telecommunications assets. Stock valuation of TAA is considerably lower than in 1999 (Merrill Lynch Study) but TAA has completed its transition to a pure-play network operation and holds no debt. TAA is moving into targeted local build-outs in metro rings and gigabit Ethernet.

** Williams Communications is now a fully independent company (since April 2001). The Williams Company first advance into telecom, WilTel, was sold to LDDS (now WorldCom) in 1995.

Utilities Were Also Lured by Projections of Exponential Growth Rates From Telecom Demand, High Multiples Applied by Wall Street to Telecom and to Utilicom Assets and Businesses, and by the (Then) Strong Performance of the DJI Telecom Index Compared to the DJI Utility Index

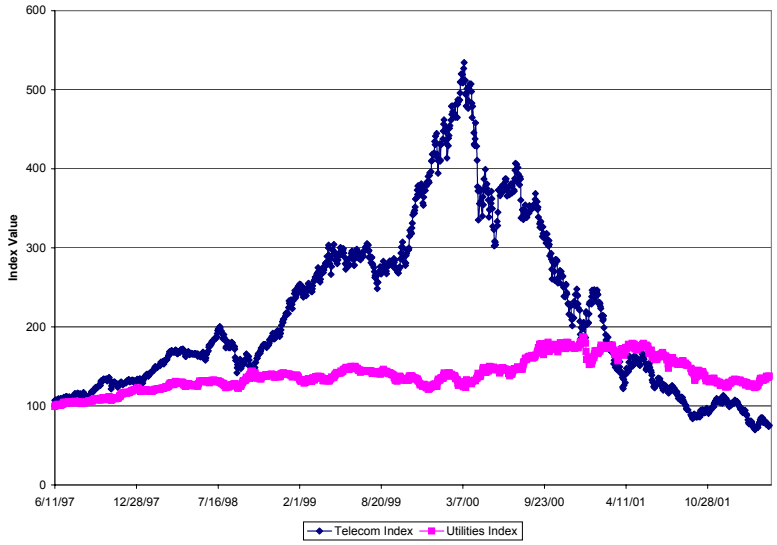


Source: Fortune Magazine, AT&T 1998

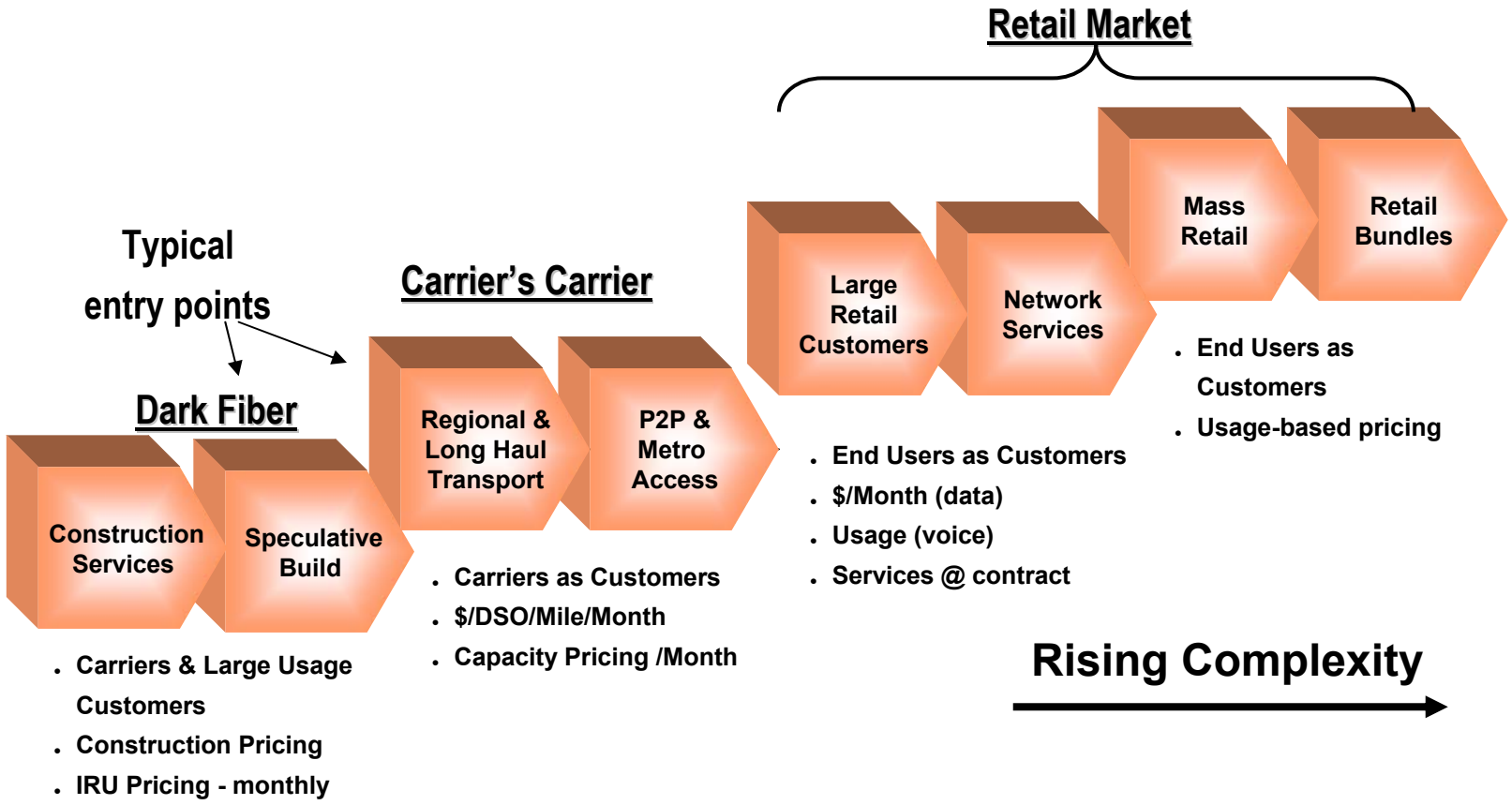
Utility with Utilicom	Accretive Value of Utilicom
Montana Power	$53.00
Potomac Electric Power	$7.00-$8.00
SCANA	$7.50
BEC Energy	$6.00-$7.00
Carolina Power & Light	$3.00-$4.00+
Conectiv	$3.00-$4.00+
PECO Energy	$2.75-$3.00
TXU	$2.70+
Northeast Utilities	$1.05

Source: Merrill Lynch Electric Utilities Reports: 13 July 1999*

Dow Jones Utility Index vs. NASDAQ Telecommunications Index

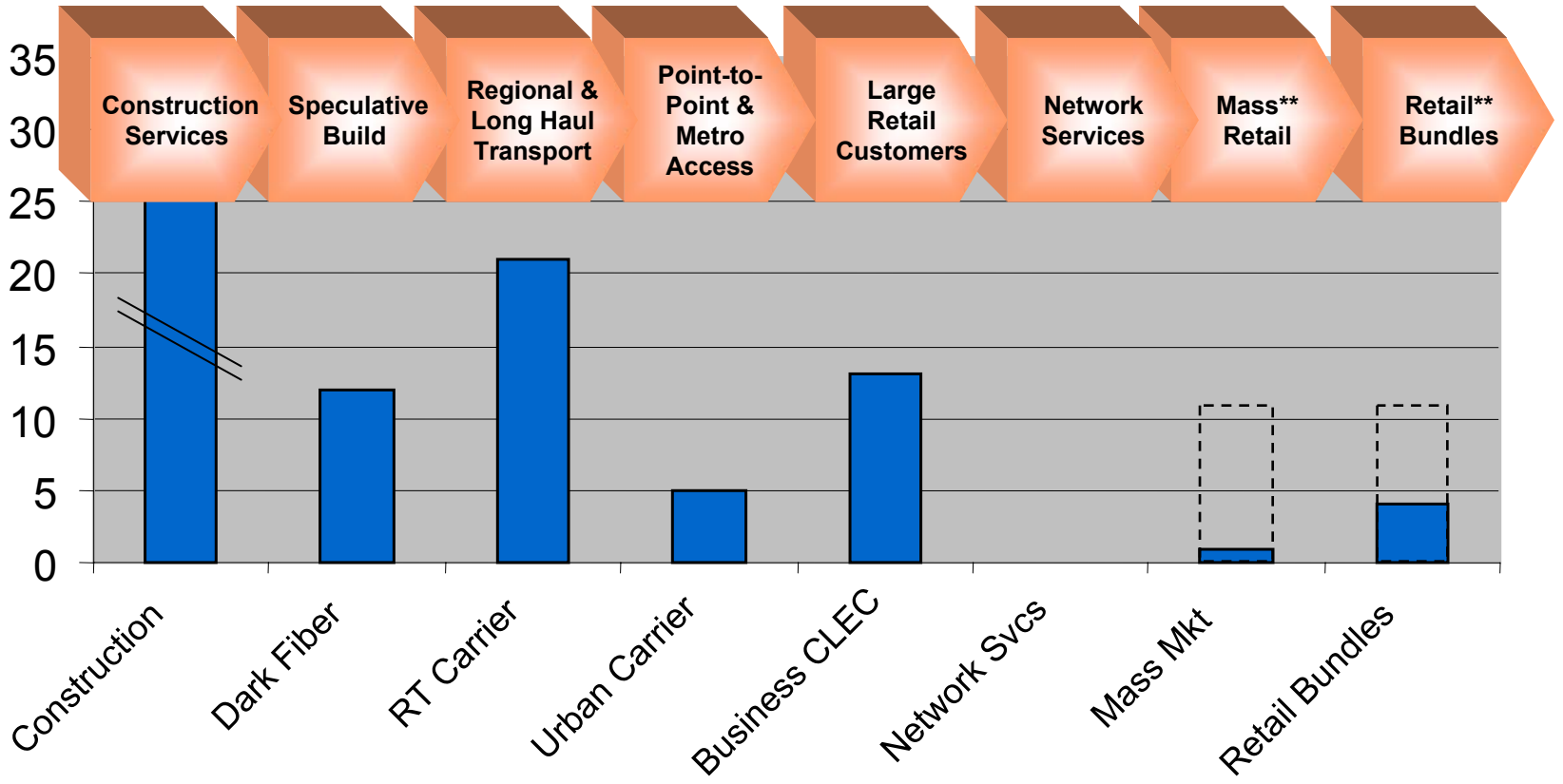


Utilicom Businesses Range From a Modest Leverage From Traditional Utility Construction Services Through Wholesale and Retail Telecom Services*



* The above taxonomy of utilicom businesses is based on customer and service segmentations. We have also used other segmentations (such as technology-based segments) in various analyses.

Most Utilicoms Are Placed on the Left Side of the *Telecom Value Chain**, Reflecting a Low Risk Profile, a Desire to Avoid Dilution of Utility Earnings, and the Belief That Gradual Migration to Value-added Services Is Possible on Desire



* The utilicom "count" used here is based on publicly available information covering approximately 70 electric utilities. Many other utilities are involved in some aspect of fiber installation and construction and/or dark fiber leasing. The above is not intended to represent an industry-wide survey. Exact numbers and classifications may be clouded by utility involvement in joint ventures, partnerships and "silent" equity investments. Also, those numbers do not include the full disposition of the thousands of municipal and cooperative electric utilities involved in telecom.

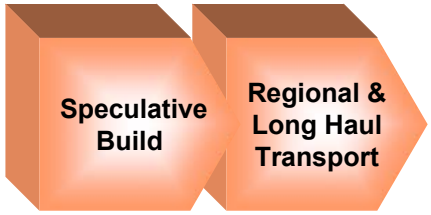
** Few IOUs are involved in retail telecom. Several municipal and/or cooperative electric utilities provide either telecommunications and/or CATV services. A full survey of muni's and coops have not been undertaken at this time.

Utilities Have Been Most Active in the Transport and Dark Fiber Businesses, Which Are Also The Areas of Lowest Risk On The Telecom Value Chain

- Many utilities have added fiber optic cable onto electric facilities as part of targeted build-outs and/or as part of planned maintenance

- Deployment strategies have varied
  - Many carefully arranged for pre-sell of dark fibers through IRUs
  - Others added lit facilities to pre-sold offerings
  - Still others built on a speculative basis (*i.e.*, "build it and they will come")

- In the 1980's and '90's (an era of increasing demand for fiber capacity), utilities benefited from several advantages including the ability to operate in the electric space



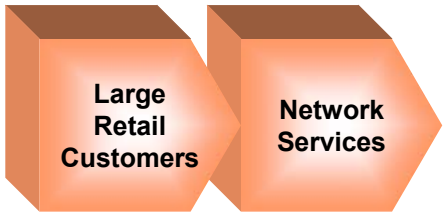
Utility Example

- MTP is probably the premier example of this business model. Much copied, they are also expending into other areas.
- FPL FiberNet is operating as a separate construction entity. Using parent's cash and leveraging brand and relationships while carefully building out, via-presell, buried cable in this demand-rich area.
- DukeNet is a good example of serendipitous growth through fiber bartering.

Many Utilities Have Expanded Into Voice and Data for Large (Enterprise) Customers, but Have Shied Away From Advanced Network Services

- Lighting fiber and selling capacity to enterprise customers frequently represents a modest (and relatively low risk) step along the telecom value chain
  - Lit services involves a modest capital investment
  - Providing full integrated communications to these customers represent a more risky posture

- Approximately half of the utilicoms that serve the enterprise market also have significant plays in regional and long haul transport, and treat large enterprise customers as an extension of the wholesale capacity customer segment

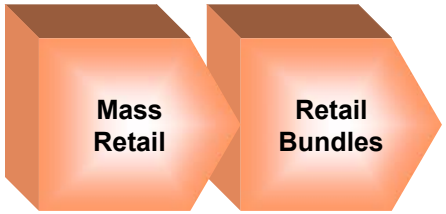


Utility Example

- Large customer providers include: Avista, CPL FiberNet, XCEL, and KLT.
- There are no large scale examples of migration to e-services.
- There are small scale examples such as web hosting and firewall activity.
- We expect leaders in the Large Retail space such as Digital Teleport (KTL) and TXU to be the early entrants into Network Services marketspace.

Few Utilities Have Entered Into the More Aggressive Portions of the Telecom Value Chain; in Few Cases This Movement Was Accomplished by Acquisition or Partnership Arrangements

- This segment of the value chain involves retail markets, as well as sophisticated and advanced services to the mid- and small-enterprise segment
- Utilities were quick to realize that they lacked technical, as well as admin, general and sales talent and that in-place systems would not be adequate
- Essentially, when operating in this area of the value chain, they have replaced a substantial portion of their prior support system: brand, mgmt, systems



Utility Example

- TXU acquisition of local CLEC Conroe Communications
- Investment in new joint venture (PEPCO partnerships with RCN and StarPower, BE's NSTAR partnership with RCN, offering cable, internet and telephony)
- Conectiv is an example of a bundled integrated offering for both telecom and electricity but they are retreating from the mass market.
- EnergyOne was unable to secure a sustainable take rate.
- XCEL, still small scale, espouses a classic consolidated offerings value proposition in smaller markets

Several Utilities Have Engaged in Multiple Telecom Businesses, As a Result of Intentional Ventures Into Divergent Areas, Mergers With Other Utilities or Both

- In certain cases, this appearance reflects the lack of a clear strategy and the opportunistic approach to investment in telecom

- In other cases, utilities are positioning themselves to converge into more diverse telecom providers, grounded in low-risk wholesale services and exploring ventures involving network services and/or mass market customers

Utility Example

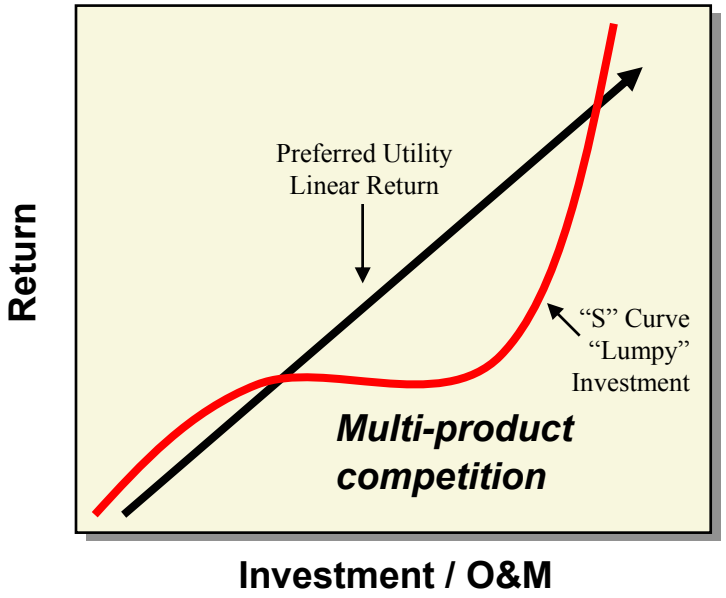
- 10 IOU's have significant plays in more than one business model.
- KLT is operating simultaneously as Dark Fiber provider and Transport Company, and Large Customer CLEC.
- TXU has Transport, Large Customer, and Mass Market.
- Florida Progress provide Dark Fiber, Transport, and Urban Access.
- The other seven have two plays: typically either Dark Fiber + Transport, or Transport + Large Customer.

The Challenge of Moving Along The Telecom Value Chain

Utility Entry Into the Dark Fiber and/or Carrier's Carrier Portion of the Telecom Value Chain Was Accompanied by an Unrealistic Expectation That Movement Along the Value Chain Could Be Achieved (If They So Desired) in a Gradual and Non-speculative Manner

- Movement into retail telecommunications requires significant capital investment; increased operations and maintenance costs associated with expanded Network Operating Center (NOC), Operations Support System (OSS) and customer operations; and acquisition of technological and managerial-experienced human resources

- This "lumpy" investment schedule results in a departure from the "pay and be paid as you go" approach to telecom that utilities experienced in the dark fiber and carrier's carrier segments of the value chain



As Utilities Attempt to Migrate From Transport to Customer-facing CLEC Services, They Encounter Significant Barriers

- Migration from provision of wholesale transport to large enterprise retail is a relatively minor transition
  - Many utilities and ILECs include large enterprise customers in their wholesale customer segment
  - Many large enterprise customers buy wholesale capacity and manage telecom services themselves*
- Migration into the Small and Medium Enterprise (SME) market requires significantly different skills and infrastructure, which are frequently costly
  - Dealing with the mass market requires clearly defined and implemented Customer Relationship Management (CRM) processes and systems, revenue cycle processes and systems (including billing), and middle ware needs beyond that in a wholesale telecom business
  - Operations and maintenance expenses are considerably higher when serving this market, as the field personnel work force is larger and work force support is correspondingly increased
  - Capital investment is deployed in a more speculative manner, rather than in pre-subscribed customers that utilities have strove for in dark fiber and carrier's carriers models

* On a turn-key basis, however, trends in outsourcing telecom may make this a more challenging segment.

Many of the Myths Associated With the Natural Fit Between Electric Utilities and Telecom Are Dispelled When Evaluating Entry Into the Retail Market or in Offering Advanced Network Services

- Competitive retail markets are fundamentally different and more challenging than (utility) monopoly retail markets
  - While utilities have developed CRM processes and systems, competitive markets typically require CRMs that do more than take orders for service activation
  - Experienced retail mass market businesses focus on churn management,* a concept relatively unknown by monopoly and essential service providers

- In setting strategic direction for telecom businesses, most utilities have shied away from the formidable capital and O&M commitments required by retail telecom businesses
  - Even though many utility strategists believe that they are naturally positioned to leverage their utility infrastructure into telecom, the costs of upgrading customer care, call centers and field facilities lessen the attractiveness of this new business opportunity
  - Including these costs in the telecom business case frequently places the venture below the utility's hurdle rate for new business opportunities, and introduces a risk that diverges from the corporate risk profile

* Churn, or the turn-over of customers, is very high in retail telecommunications per month. Estimates of churn rage from 2.5% to 3.5% per month for U.S. wireless operators and from 1.5% to 2.5% per month for wireline operators

On the Positive Side, Utilities Do Enjoy Several Attributes That Position Them to Enter More Advanced Areas in Telecom

- In general, electric utilities have developed strong brand recognition* for reliability, integrity and responsiveness
- A core competency of electric utilities is their established relationships with local, state and federal regulatory agencies and permitting and environmental concerns
- Utility field operations can be cross-trained to install and to maintain fiber-based facilities
- Utilities have access to rights-of-way, and more importantly, familiarity with the complexities of the "make ready" process
- Although these attributes are real, analysts have frequently over-stated some of them and not quantified the impact in financial projections
  - Utility construction costs are high compared to other construction sources
  - Brand is not always transferable across product sets
  - Affiliate and transfer pricing rules require utilicoms to pay the same rates for pole attachments (and have the same degree of access) that non-affiliated companies pay

* Historically, utilities have been rated relatively high when compared to other infrastructure and service providers, especially in rural areas. Cable television companies generally have received the lowest ratings.

The Juncture In 2002:
Utilicom End Games

The Bursting of the Telecom Bubble Has Incented Numerous Utilities to Re-examine Their Utilicom Strategies and Plans, While Certain Dark Fiber and Low Entry Carrier's Carrier Utilicom's Have Been Relatively Unfazed

- Many utilities have entered utilicom and remained on the "left side" of the telecom value chain, and view utilicom as a low-risk / low (absolute) reward / low-focus opportunity
  - The burst in the telecom bubble has served to confirm their position in utilicom and/or abate any interest in progressing along the value chain
  - Theoretically, dark fiber leasing is frequently conducted using an indefeasible right to use (IRU) long term contract, ensuring that the dark fiber annuity will continue despite the decline in the telecom market*
  - Carrier's carrier customers are also frequently intermediate- to long-term in nature

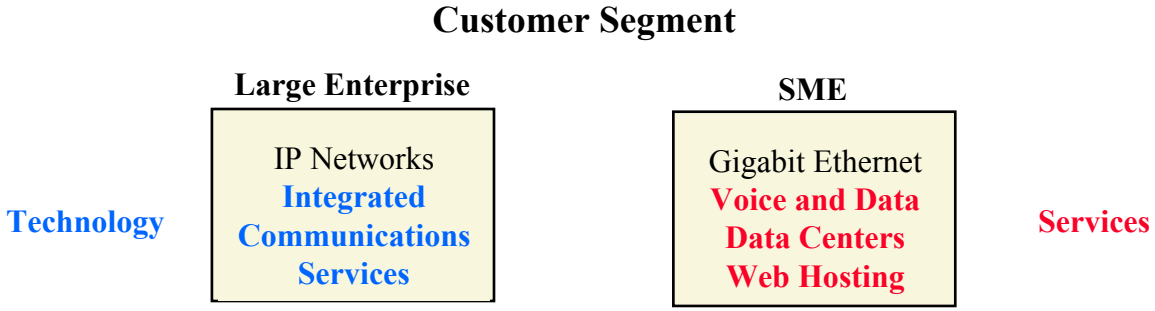
- More aggressive utilicom players were considering further penetrating the evolving telecom value chain

* Leasing of dark fiber includes a risk that leasees (who are frequently emerging CLECs) will be unable to meet their financial obligations to the utilicom (*i.e.*, not be able to pay their bills) as a result of their problems in operating in the telecom market.

Effective Utilicom Strategy (for Those Venturing Along the Telecom Value Chain) Will Require a Long-term View, and Business Analyses Will Need to Adopt a Perspective Beyond Achievement of Investment Hurdle Rates

- During the late 1990s, the assumptions underlying utilicom economic feasibility studies were universally optimistic
  - Growth in applications and bandwidth demand were projected to be exponential, and thus reflected in ILEC, CLEC and utilicom business plans
  - Projected shareholder values were based on very high terminal values

- While many utilicom business analyses (developed in the 1990s) were lacking because of lack of bottom-up analysis, overly myopic analysis will be damaging in the post-telecom bubble era
  - Geographic and service specific scenario analysis will remain an important analytic tool
  - More strategic questions, such as the fit of utilicom into utility strategy, industry structure questions (concerning industry concentration) and level of service integration will need to be considered

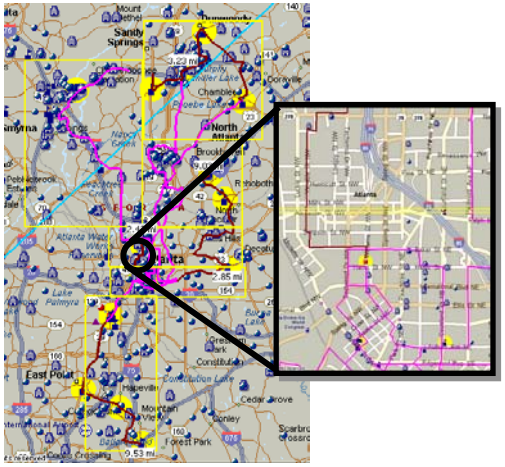


This Is Not to Suggest That Rigorous Business Case and Financial Analysis Will Not Be Required; It Is Essential, Especially for Utilities That Have Clarified Their Intent

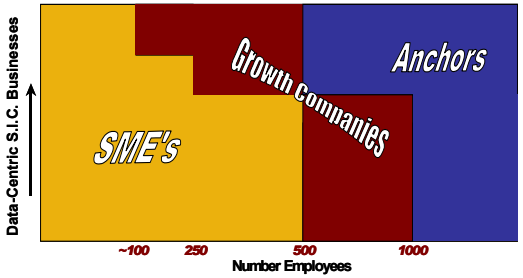
- Scenario-based segmentation analysis is critical to developing meaningful financial analysis, implementable strategies, and business focus

- The three components of this rigorous analysis are:

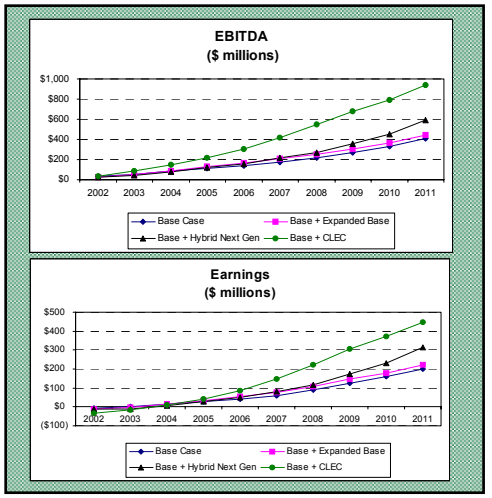
Bottom-up Geographic Analysis



Customer Segment Analysis



Financial Analysis



The Utilicom Sector, Similar to the CLEC Sector and the Global Telecom Sector, Is and Will Continue to Witness a Consolidation

- A significant number of utilities will continue to play along the edges, providing infrastructure support and dark fiber to bona fide telecom players
  - Dark fiber and infrastructure construction support are being dismissed from the utilicom counts, and are being considered as ancillary utility services
  - These opportunities will organizationally be placed in the utility's distribution operating businesses

- Utility executive management groups will recognize that peripheral involvement in utilicom, while providing some return, has an opportunity cost in terms of constrained capital and management distraction

- Several utilities have and are exiting the telecom business
  - Conectiv sold Conectiv Communications to Cavalier Telephone in 2001Q4, citing lack of fit with core energy business
  - Avista has transferred customers in Washington state to XO and sold telecom properties to ATG
  - Reliant Energy is exploring its strategic options with regard to RE Communications
  - Telergy is operating under Bankruptcy laws

Heightened Focus on Communications Affiliates Will Come From Two Utility Segments: Focused IOUs and Community-Development Minded Public Power Utilities

- Several utilities are honing their focus on telecommunications offerings and appear to be grounded in strategic fit and sound business analysis, although few have aggressively expanded along the telecom value chain
  - Southern Communications (Link) has maintained its deployment of wireless communications across its utility footprint (competing with Nextel wireless technology)
  - Progress Telecom is expanding to network and service offering with a highly experienced telecom management team
  - Dominion Telecom has developed a regional network providing dark fiber and lit services including wavelengths
  - FPL Fibernet has developed an extensive network in Florida spanning regional transport and MAN dark and lit services

- Cooperative and municipal utilities are also continuing their focus in satellite and cable television and in regional-haul and retail telecommunications

Utilities Are Also Exploring Alternative Telecommunications Technologies, Notably Power Line Communications

- Power Line Communications (PLC) represents a potential windfall for utilities
  - Electric transmission and distribution plants are in place
  - Possible low-cost conditioning of distribution plants to provide telecom services* *could* yield revenue streams rivaling, if not exceeding, core utility streams
  - Revenue streams are likely greater in the Last Mile than in the Last Inch (*e.g.*, home networks), though the converse is true with regard to ready-to-market time frames

- The prospect, however uncertain, of PLC at the distribution level has caused utility management to invest in PLC R&D and to investigate the commercial viability of this technology

- Caution should prevail, however, as PLC may provide too little bandwidth too late
  - Despite numerous field tests, distribution PLC still faces questions concerning
    - receiving and generating electromagnetic interference
    - overall system bandwidth
    - overall system economics
  - Unless PLC bandwidth at the distribution level exceeds DSL and cable modem bandwidth at similar levels of customer aggregation, PLC may not be met with consumer acceptance

* Conditioning costs are a major determinant of PLC economic feasibility. High conditioning costs, however, could reduce the financial viability of PLC.