

# Supporting Members in a Time of Radical Change

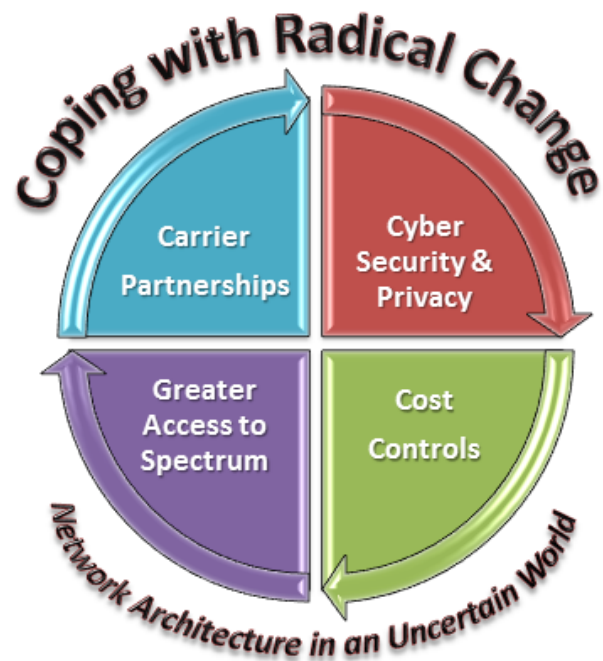
## Statement of Strategic Direction

*March 2011*

### SUMMARY

UTC's member utilities are facing an unprecedented environment of unpredictable business challenges, regulatory changes, security threats, and a need for innovative approaches to critical communications networking.

While none of these issues are new to UTC and its members, the speed and number of the changes hurtling at UTC members is unprecedented. And, because of this, UTC's core strategic issues have evolved to highlight cybersecurity and privacy, innovative approaches to cost controls, the continued need for access to spectrum, and the new reality for many of making carrier partnerships work.



This was the conclusion of an annual strategic planning review held by the UTC Leadership and approved by the UTC Board of Directors in February 2011. UTC's Divisions and Independent Operating Units will use this Statement of Strategic Direction as a guide in the development of policy positions and services on behalf of UTC's member utilities and technology partners.

### **VISION STATEMENT**

The strategic planning review group concluded that UTC's current Vision Statement remained appropriate:

**“Energy and water utilities are in the midst of a period of great challenge, during which telecom and IT will play a critical role. In this context, UTC's mission is to ensure success for utilities, their telecom/IT professionals, partners, regulators, and customers.”**

### **OVERARCHING ISSUE**

## **The Radical Pace of Change**

Change has been the constant in all businesses for years. Over a decade ago, UTC's Chairman Chuck Holcomb, then with Williams Gas Pipelines, borrowed his corporate mantra: “Constant Whitewater” to describe the speed of change within UTC's members. If that was an era of constant whitewater, today is more akin to Niagara Falls.

The speed with which regulations, technologies, standards, business demands, and the work environment are changing is increasing – and – the vectors from which these unexpected changes are originating are multiplying just as quickly. Regardless of what issue UTC members are wrestling with at any given moment, the uncertainty of how external factors will impact their businesses and plans is a growing challenge and the overarching issue facing UTC members today.

Helping UTC members cope with this environment of unexpected and radical change is the primary strategic issue facing the Council.

How do you architect a secure reliable utility network in an era of constant regulatory technology and business change? To deal with this, utilities need to extend their situational awareness further into the overall solution; and, UTC is uniquely positioned to help.

New business processes will drive data acquisition from systems that previously were reasonably static. Utilities are now moving from reading meters manually once a month just for revenue purposes to constant monitoring of meters and grid devices to obtain overall situational awareness. UTC needs to apply this framework and expand on its monitoring and analysis of impactful issues to give its membership the same kind of advanced situational awareness of what changes are coming and how best to respond.

UTC's members, who are challenged to design the operational telecom and information technology (OT/IT) networks that will support next-generation utilities, will need greater insights into what to expect. While this need plays to UTC's strength in regulatory and technology analysis, it means UTC will need to do even more – drawing on the skills of the UTC staff and the strengths of UTC's volunteers.

Balancing the pressures felt from regulators and the desires of consumers to address/support electric vehicle (EV) deployment, hold rates in check, offer power sourcing options and implement the use of technology, while also tackling headcount and aging workforce issues, will be driving forces within the industry. Best practices, information sharing and the ability to use open-system, flexible designs that scale will be UTC members' top priorities.

### **CORE ISSUES**

During the Strategic Plan review, the review group identified four core issues UTC needed to focus program activities on during the year ahead:

- **Cyber Security & Privacy:** How do you ensure the security of your critical infrastructure while maintaining the privacy of your customers' data while meeting compliance requirements that may do neither?
- **Cost Controls:** How do you deploy next generation telecom and IT networks in a manner that reduces overall costs of the utility?

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- **Greater Access to Spectrum:** How do you better manage utilities access to radio spectrum today and increase access to more spectrum in the future while preserving spectrum already used?
  - **Carrier Partnerships:** How do we forge better working partnerships between the utility industry and commercial telecom carriers that are based on quality of service?

Utility telecom and IT – Information Communications Technologies – are in a unique position to help utilities successfully address all of these core issues. UTC’s focus should be aimed at helping utility telecom/IT professionals and its members use their ICT experience to proactively contribute to their organizations’ success. Following are summaries of the four core utility business issues:

### **Cyber Security & Privacy**

The security challenge facing UTC’s members comes in the form of a chilling question:

- ***How do you ensure the security of your critical infrastructure while maintaining the privacy of your customers’ data while meeting compliance requirements that may do neither?***

Smart energy grids and water systems will bring incalculable benefits to the communities that UTC’s member utilities serve, but these smart utility networks will also bring their own unique measure of cyber security challenges too.

Security will become the baseline and initial design criteria for all critical infrastructure communications networks. In many cases, it already has; but, in too many cases, it has not. Security of the grid will ultimately be as strong as the weakest link and many of UTC’s members worry that their organization might be that weak link. In many cases, utilities receive too much data from too many diverse sources with a dearth of real actionable information. A tremendous focus has been placed on compliance with the North American Electric Reliability Corporation’s Critical Infrastructure Protection (NERC CIP) requirements, yet there is concern that real security may be sacrificed for the sake of compliance. There is a real difference between a well-architected critical communications network that is secured and a secure, well-

architected critical communications network. The difference is starting with security, rather than tacking it on at the end.

But, there is much more to utilities cyber security needs than NERC CIP compliance.

This means that as we look at everything “smart,” we must begin with a keen eye to security. No matter what the utility telecom/IT network – SCADA and other control system, smart meters, advanced distribution systems, customer information systems, billing systems, emergency mobile communications or enterprise IT networks – security demands will increase. Quickly recognizing and implementing security fixes will become equally important with anticipating and prioritizing potential new threats.

With UTC’s members expected to devote more time and money on security planning and implementation over the next two years than any of them expect to today, it is imperative that UTC find ways to do even more to support members’ cyber security and privacy needs in the year ahead – whether focused on NERC CIP compliance or general smart grid development.

### **Cost Controls**

Here’s a challenge that every utility telecom professional is facing today:

- ***How do you deploy next generation telecom and IT networks in a manner that reduces overall costs of the utility?***

Subsidize it with “gobs” of federal money? It was a nice start, but that well has, for all intents and purposes, run dry. This challenge really boils down to determining what is critical and what is practical and then merging them into a flexible, scalable solution. For example, the trending toward disposable devices (cellular handsets, camera, etc.) will present a challenge as the “new workers” appear and have no history or appreciation for the two-way and voice systems that work. Their standard for “work” is what the carriers define it to be.

Partnerships and shared resources may be part of the solution here. Shared data centers amongst utilities or like businesses would leverage the cost of facilities and support.

The challenge for UTC's Divisions and Independent Operating Units will be to develop programs that encourage cost-saving joint ventures, help members understand the cost-benefit relationships of new technologies and push for regulatory relief to ensure that the best measure possible of utility communications investments is focused on end-results, rather than questionable or outdated compliance requirements.

### **Greater Access to Spectrum**

UTC has been in search of additional spectrum for utilities and other critical infrastructure organizations since it was created over 60 years ago. With demand by commercial service providers for more and more spectrum, the challenge today has become three dimensional:

- ***How do you (1) better manage utilities access to radio spectrum today and (2) increase access to more spectrum in the future while (3) preserving spectrum already used?***

Everyone involved with UTC today understands the value of radio spectrum – especially when we look at the new kinds of networks being built and planned. Situational awareness regarding the utilities core deliverable (gas, water, electricity) requires extending the reach of sensors and controls further away from the core and out into the distribution system and then into the customer interface. Much of the discussion around Smart Grid is doing exactly this - finding the balance between command and control functions versus customer empowerment. Far more energy is saved in system efficiency than in individual customer choices. Wireless is the logical and most cost effective mode to communicate with these devices. Beyond the obvious (mobile device) link to a PEV or other mobile load/source, the cost to extend communications networks into the house is based upon utility needs.

The challenge for UTC is to use all of its resources to better use the spectrum we have, find more spectrum to use and protect what utilities have from being taken away. To do this requires aggressive advocacy in Washington and finding innovative alternatives to increase members' access to spectrum (i.e., finding and promoting spectrum purchase and leasing options as well as exploring options created by new technologies like cognitive radio). UTC's quest for spectrum on behalf of its members has not really changed – it has just been magnified ten-fold by the current marketplace.

### Carrier Partnerships

A great deal of attention was paid to the changing relationship between utilities and commercial communications service providers. While the discussion began with how aggressive carriers have become in trying to sell and/or force utilities to use their services, it settled down into an acceptance that, with all the communications services utilities will need in the next 5-10 years, greater use of carrier services will be necessary. With that perspective in mind, it is important that UTC begin programs to reach out to this community with this question in mind:

- ***How do we forge better working partnerships between the utility industry and commercial telecom carriers that are based on quality and reliability of service?***

UTC's recent Research Study: **Utility Communications Needs: Key Factors That Impact Utility Communications Networks** (September 2010) was referenced several times during the discussion. One of its findings illustrated that many utilities already are relying on commercial carriers for every type of traditional utility communications. It was agreed that UTC needs to reach out to those members that have found ways to provide secure and reliable services in partnership with carriers and learn more about how their experiences can help the rest of UTC members structure similar business relationships.

Striking the balance between wireless carrier services and internal services will be essential.

Additional partnerships beyond carriers would include energy management companies and potentially ISP's or triple-play companies. Utilities' data needs to the home or business are very asymmetrical. Utilities only need to get limited information from single meters, but the bandwidth required by utilities to aggregate this data will be enormous. There are several great models of this. Critical to this issue is how it can be fashioned to support all the other critical issues identified. But, regardless of what model works for any particular utility, it was agreed that more effort at the national UTC level was needed to build greater strength for UTC's utility members in partnerships with carriers.

## **CONCLUSION**

To all UTC members and stakeholders reading this document, please consider this conclusion an open invitation to share your thoughts on our views of the critical issues we are facing. Any thoughts or comments you share will add to the discussion and make our process that much better. Please contact any UTC Officer or staff executive – or feel free to send an email to [chair@utc.org](mailto:chair@utc.org). The UTC Board of Directors will continue to monitor all UTC activities, programs and services to ensure that all are supporting the Council’s Strategic Direction. Your input will be part of that oversight process.

UTC’s members will no doubt remain in the midst of a period of great change for some time. During this period telecom and IT will clearly play an increasingly critical role. In this context, UTC’s mission remains squarely focused on ensuring the success for UTC’s utility members, their telecom/IT professionals, partners, regulators and customers.

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