USNAP Alliance Member Prospectus

This Prospectus is an invitation to interested stakeholders to participate in the USNAP Alliance for the advancement, marketing, testing and certification of devices and modules using the ANSI/CEA-2045 Modular Communication Interface standard.

USNAP Alliance

Membership Prospectus

Executive Summary

This prospectus is an invitation to participate in the USNAP Alliance.   Interested stakeholders may include policy makers, regulatory agencies, suppliers and users of home automation, security and energy control systems, appliance manufacturers, electric vehicle and vehicle charging manufacturers, technology integrators, electric utilities, residential customer advocacy groups, and others.

The USNAP Alliance is a nonprofit, 501(c)(6) corporation formed to promote, test and certify, and provide a venue for the further development of a modular communications interface standard for residential energy management and related systems and between such systems and the smart electric grid.

USNAP is also the marketing and brand name for the ANSI/CEA-2045 Modular Communication Interface (MCI) standard that describes a physical interface and signaling system between consumer equipment and modules that support any number of wired or wireless communications standards or specifications. The USNAP Alliance is analogous to the WIFI Alliance that certifies products and promotes products based on the IEEE 802.11 suite of standards.

The USNAP Alliance works to:

- Educate and support manufacturers, policymakers, utilities, media, the financial community, and other stakeholders on how USNAP certified products simplify the development and marketing of communicating, energy-aware consumer equipment.

- Promote the USNAP interface as a practical solution to many of the hardware issues surrounding Smart Grid and Home / Small Business interoperability in the Customer domain.

- Develop and promote a standardized Testing and Certification Program to ensure device and system interoperability and compatibility.

Vision

The one universally-agreed upon requirement for both demand response and easy, low-cost, automation integration is the ability to communicate with the customer equipment that actually controls the moment-by-moment operation.

There are more than 20 different published communications standards and specifications vying for a piece of the market for automation and energy management, not to mention the various completely proprietary systems. While

some have garnered early attention, none has a significant share, and certainly none is ubiquitous.

In addition, with the large number of utility systems in operation worldwide (and over 3,000 in the United States alone) each with a distinct service area, population, business and regulatory goals, it is virtually certain that no one communication standard or protocol will be implemented everywhere.

So we have currently no universally agreed-upon way to do the one thing that is universally agreed-upon as necessary! What is required is a way for whatever equipment a manufacturer designs, builds or sells to be able to connect to any automation or utility demand-response communications system, anywhere. USNAP certified products provide that way.

Mission

The mission of the USNAP Alliance is to enable efficient equipment interconnection and large-scale residential/small commercial demand response by;

- Promoting and supporting the market for appliances and equipment incorporating products based on the ANSI/CEA-2045 standard,

- Promoting and supporting the market for communication modules based on the ANSI/CEA-2045 standard,

- Testing and certifying interoperability for devices, modules and equipment compliant with the ANSI/CEA-2045 standard.

Demand Response Overview

The evolving smart electrical grid helps support the national objective to "increase the energy efficiency of products, buildings, and vehicles," as stated in the Energy Independence and Security Act (EISA) of 2007. That law has catalyzed the need for active management of energy demand and consumption. For residential and small commercial customers concerned about the volatility of energy costs, energy management has never been more important. Beyond that, increasing pressures of the cost (both economic and social) of electric generation have created a need for more intelligent use and operation of the electric grid.

Historically, Demand Response systems have been limited to Direct Load Control (DLC), in which a utility installs a simple load control switch that is designed to communicate with that Utility's communication network. This practice requires significant investment by the retail utility for each device enrolled (not the least of which is the labor involved in rolling a truck to install and set up the device.) Because the function of DLC switches is a simple "on/off," the flexibility and applicability of DLC is narrow. Further, customers are often reticent to turn over control of their comfort and convenience to an outside party. As a result of both cost of installation and limited applicability, Direct Load Control is not in widespread use.

As consumer-owned equipment has become more sophisticated, more and more devices incorporate some degree of solid-state logic. In many instances,

manufacturers have turned this device intelligence to energy usage and device management. However, even where this provides the customer with energy management at the device level, it is not accessible to the utility, nor is there any way for customer devices from different manufacturers to cooperate in energy management.

The advent of Smart Grid technologies has opened up a broad range of possibilities in terms of Demand Response. Demand Response is no longer limited to a simple "on/off" of DLC, but covers everything from traditional DLC to price response, load scheduling, and even the provision of ancillary services (like voltage and frequency regulation) to the grid operator, all through intelligent operation of customer equipment. The opportunities are there, but a challenge remains in putting equipment on the customer side of the meter that can communicate and cooperate with utility systems.

In short, we now have grid systems that are capable of working in cooperation with residential customer loads, and we have residential customer equipment that is capable of working in cooperation with the electrical grid. What has been lacking is a consistent way of communicating between grid management systems and customer devices.

Through the development, promotion, and testing and certification of consumer devices and communication modules incorporating ANSI/CEA-2045, the USNAP Alliance seeks to change that.

Automation Overview

In the home and small commercial automation space, similar problems exist. Many communication standards and platforms are available, each of which has unique and useful functions and capabilities, but while these platforms largely exercise the same control over device function, they aren't interoperable. This means that a "whole house" automation solution requires expensive and time-consuming integration.

Equipment manufacturers are understandably reticent to develop the kind of low-level interoperability that is required for simple integration, because it limits their ability to provide unique and attractive features that excite customers.

By providing a simple, common, command set and interoperable communication port, without specifying in detail what a device does in response to those commands, or how or with what a device can communicate, USNAP makes inexpensive (even DIY) integration of home automation a practical reality.

What is USNAP?

USNAP is the marketing and brand name for an ANSI standard (ANSI/CEA-2045). The ANSI/CEA-2045 standard describes a physical interface and signaling system

between consumer equipment and modules that support any number of wired or wireless communications standards or specifications.

By making the communications between a customer device and utility demand-response systems <u>modular</u>, USNAP provides:

- <u>Manufacturers</u> the ability to produce equipment that can be populated with a module in manufacturing, at point of sale, or at any point in the future. This enables a single product to be sold in multiple markets, without concern for compatibility with local systems. It also minimizes the upfront cost of building communicating products, by minimizing additional circuitry, and deferring the cost of communications components until they are actually put to use.

- <u>Utilities</u> with the ability to implement modern Demand Response systems, incorporating different forms of control or pricing information, based on the best communications platform for their service area, and have confidence that the customer's equipment will be compatible.

- <u>Customers</u> the ability to buy the appliances and other equipment they want, and keep or replace them as they wish, since modules are homeowner installable, removable and replaceable as needed.

- <u>Everyone</u> a way to avoid both technology lock-in and technology obsolescence.

Why join USNAP?

<u>Equipment Manufacturers</u> gain:

- ✓ The ability to market products as USNAP Certified, as well as having a voice in the development of certification platforms and marketing.

- ✓ Open new markets for equipment by making them USNAP compliant.

- ✓ Reduce development risk by utilizing a standard, well defined, interface for energy and other communications, removing the burden and risk of customer dissatisfaction due to incompatible or obsolete equipment.

- ✓ Reduce development costs by using a recognized standard that both reduces the cost of making equipment Smart Grid or automation "ready", and defers that cost until it is actually put to use.

<u>Utilities</u> gain:

- ✓ Interoperability between customers owned equipment and grid systems.

- ✓ New opportunities for both grid management and enhanced services.

- ✓ Lower implementation costs.

- ✓ Broader applicability of Demand Response.

- ✓ Flexibility in developing demand response communication systems.

- ✓ Greater consumer acceptance.
- ✓ Easier regulatory approvals.
- ✓ Reduced risk of stranded assets.

Alliance Activities

The USNAP Alliance activities include the following:

- Market and promote USNAP certified products as a consistent, compatible and low-cost solution to many of the Smart Grid interoperability issues in the retail marketplace.

- Develop extensions and additions to the ANSI/CEA-2045 Standard.

- Work towards ISO recognition of ANSI/CEA-2045.

- Implement a certification program for USNAP equipment and modules.

- Implement consistent branding and logo usage for equipment and modules that are USNAP certified.

- Develop a marketing portal for USNAP certified modules and equipment. Members can use this portal to promote their offerings and direct interested parties to their own web sites for information.

- Conduct education and training sessions for system integrators, control vendors, retailers, and others to enable them to install equipment within a customer's premise.

- Establish centralized documentation related to USNAP-based demand response deployments, including lessons learned from previous deployments and the development of best practices.

- Develop programs to allow USNAP certified modules and equipment and module manufacturers to interoperability test and demonstrate their ability to integrate with other smart grid systems.

Membership Benefits

USNAP Logo Usage – Alliance members are entitled to use the USNAP logo on all marketing material. Logo style guides will be available to members for guidance in using the logo, on web sites, literature, displays, and other customer-facing communications.

Professional Networking – Alliance members are a select group of leading-edge professionals that have unique and valuable insights on designing and deploying Customer Energy Management Systems (CEMS). The Alliance facilitates interaction and information sharing among this community leading to more effective adoption of smart grid standards.

Membership Directory – Alliance member organizations will be listed in the member directory and on the USNAP Alliance website. The listing will include descriptions of member certified products and identify USNAP related offerings. Members will be recognized for contributions to USNAP Alliance programs and objectives.

Board Membership- Alliance members have the opportunity to provide leadership and direction to the alliance by participating on the USNAP Alliance Board.

Committee Membership – Alliance members have the opportunity to participate on technical and marketing committees that will define and promote the future of USNAP. Members will have the opportunity to influence the strategic direction of USNAP technology advancements and to gain advance notification of updates and enhancements to the ANSI/CEA-2045 standard.

Presentation and Production Support – While every standards organization depends heavily on its members for technical expertise, the USNAP Alliance provides support and expertise in areas equally important for standards development and promotion, such as technical writing, graphic design, media presentations and press releases.

Intellectual Property Rights – Alliance members may use the Intellectual Property Rights (IPR) of the USNAP Alliance for design, deployment, manufacturing, and integration engineering of products using USNAP compliant technology. Members will receive continuous updates of USNAP technical specifications.

Voting Privileges - Members are encouraged to participate in elections of Technical Committee leaders and specifications.

Public Awareness – In addition to USNAP Alliance logo usage, members are offered opportunities to promote their companies and products through sponsorships, joint marketing and advertising, seminars, publishing, technology expositions, and an email newsletter. The Alliance will facilitate technical exchanges and technology demonstrations for educational purposes and to promote the use of USNAP Compliant technology.

Membership Levels and Fees

The USNAP Alliance has three membership categories, Influencer, Contributor, and Liaison.

Contributor Members

 Contributor membership is extended to industry stakeholders that strongly support the vision, mission, and activities of the USNAP Alliance and envision developing hardware, software, or service products that are USNAP-certified.

<u>Influencer Members</u>

Influencer membership is extended to Utilities and Competitive Retail Service Providers, to provide access and input to the development process, and to help promote demand-response systems in the residential energy market.

<u>Liaison</u>

Organizations that have an interest in staying current on developments regarding CEA-2045, or represent groups working in related fields are welcome as Liason members.

The benefits of each membership level are shown below:

Benefit	Contributor	Influencer	Liaison
USNAP Logo Usage	√	√	√
Professional Networking	√	√	√
Membership Directory	√	√	√
Committee Membership	√	√	
Public Awareness	√	√	√
Intellectual Property Rights	√	√	
Voting Privileges	√	√	
Document Access	Partial*	Partial*	Limited
Board Membership	*Contributor and Influencer Members fill 5 Board seats (2 Influencer & 2 Contributor and 1 At-Large) by election.***		

* Certain aspects of Board Meeting Minutes may be limited to Board of Directors access, by mutual consent.

** The number of Contributor and Influencer Members on the Board of Directors increases as membership increases to provide fair representation.

The annual membership dues of each membership level are shown below:

Contributor	$5,000	More than $10,000,000 Annual Sales
	$2,500	$1,000,000 to $10,000,000 Annual Sales
	$1,000	Less than $1,000,000 Annual Sales
Influencer	$5,000	More than 100,000 Customers
	$2,500	25,000 to 100,000 Customers
	$1,000	Less than 25,000 Customers
Liaison	Determined on case-by-case basis.	

More information

More information about the USNAP Alliance, including membership application forms, member fees, and mailing instructions are available for download at www.USNAP.org.

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