

A Technology Infrastructure for Standards Consortia

Applying Best Practices



Introduction

The technology industry has come to rely heavily on open standards to bring innovation to market. The industry has evolved to a point where no single company can manage and support the full solution stack. In fact, in today's environment without global standards there are no global markets. Bringing cost-effective innovation to market is a task for a variety of vendors with a common interest, each with its own unique talent and ability to contribute. Standards provide the basis for cooperation among industry participants and create the means to ensure interoperability among participants' products.

In the late 1980s, industry players began to form consortia as a forum for rapid standards creation – an alternative to the existing standards developing organizations whose processes were considered too burdensome and slow to facilitate timely delivery of technology standards. Early standards consortia were very simple, virtual organizations without formal processes. Today, these standards consortia are evolving into complex, nonprofit corporations with well-defined legal structures, formal policies and procedures, and the sophisticated technology infrastructures necessary to ensure responsible corporate governance and enforce stated policies and procedures.

This document focuses on the infrastructure requirements of standards consortia and outlines a set of best practices that serve the needs of consortia members by facilitating successful and responsible standards development activities.

Consortia Legal Structure

Most technology standards consortia today choose to establish themselves as nonprofit corporations under the IRS classification 501 (c) (6). This entitles them to operate as federally tax exempt trade associations and allows members to cooperate in support of a specific organizational mission. A standards consortium's structure is defined by a set of legal documents, bylaws, policies and procedures. These include:

Corporate Articles: defines the scope of the organization's activities and establishes the consortium as a qualified nonprofit corporation

Bylaws: provide a detailed framework and set of rules for the governance and operation of the consortium.

Membership Agreement: establishes the rights and obligations of member companies

Intellectual Property Rights (IPR) Policy: spells out the consortium's procedures for the disclosure of patents and licensing requirements for patents that may be incorporated into a standard

Operating Policies and Procedures: describes the process by which the organization will organize,

draft, respond to comments, build consensus and decide upon the final draft of a standard.

Prospective members of consortia should seek legal counsel and carefully review these documents so that they understand their rights and obligations as participants. There are many issues that need to be carefully considered when reviewing a consortium's policies. However, these issues are beyond the scope of this document. For a detailed look at these issues, go to www.consortiuminfo.org, a very informative site maintained by LGU, a law firm specializing in standards law and best practices.

Consortia Infrastructure – Putting Policies into Practice

Over the past few years, we've all experienced the consequences of improper corporate governance. As a result of the egregious failure of certain corporations to ethically govern themselves and protect the interests of shareholders, there is growing scrutiny of corporate governance practices in both the for-profit and the nonprofit sector.

Standards consortia, as nonprofit corporations, face some particular challenges. Most are virtual entities with no permanent physical location, small staffs, and volunteer officers. In order to fulfill their obligations under law and to their members, the organizations' infrastructure must be particularly solid. It must provide transparency into operations, create a structure that enforces bylaws and policies, provide a secure environment for intellectual property disclosures and maintain archival records of all proceedings.

A 21st century standards organization needs to pay close attention to its operations and observe best practices in order to function within legal and ethical guidelines, deliver value to its members and achieve its standardization mission. A static web site and a collection of mailing lists characteristic of early consortia doesn't even come close to fulfilling the requirements for implementing and observing best practices.

Operations

Once the concept of best practices is understood and captured in the organization's legal framework, the job of the organization's officers and board members is to ensure that these practices are applied daily and without exception. The daily operation of the organization relies on the efforts of permanent or volunteer staff and comprehensive IT infrastructure.

The staff usually consists of an operations manager or executive director supported by a secretariat. Staff positions can be outsourced to association management companies or designated as permanent employees. Duties include accounting, finance, reporting, member communication, meeting management, recording of proceedings, ballot management, membership management, and marketing. There are several association management companies (AMCs) that specialize in providing outsourced executive director and secretariat services to standards consortia. The AMCs help consortia manage startup and operations costs by amortizing the cost of the business infrastructure across several organizations and obviate the

need for dedicated office space, telecommunications, accounting systems and more. They also provide access to a network of supporting services from legal and financial auditing professionals.

Whether or not the consortium has a dedicated physical business infrastructure, it relies heavily on technology to support operations and collaborative work. The membership and volunteer workforce are typically spread across the globe and, therefore, interact with the organization and other members via the Internet. To sustain operations, a standards consortium needs, at a minimum, a flexible membership management database application, public and secure private areas on its Web site, Web content management system, archival email discussion lists, document management systems, and shared calendaring.

Current State of Consortia IT Infrastructure

Many organizations underestimate the rigors of consortia management and operations. As a result, their technology infrastructure may not establish a platform for disciplined governance or efficient work flow. While the organization may be able to assemble the basic components necessary to function, most who attempt to create and manage their own technology infrastructure soon suffer from a variety of painful shortcomings. Weaknesses typically include a lack of integration among the components, security lapses, unreliable hosting systems, undifferentiated roles and permissions, and an overall inability to support work flow and enforce the organization's policies and procedures. In addition, on-going support of a custom or home-grown solution consumes valuable resources and distracts the organization from its primary standards mission.

The current state of consortia IT leaves much to be desired. There is no generally accepted standards platform and no consensus on procedures. Only a few organizations can clearly claim to have an infrastructure that supports the full range of best practices.

An IT Framework for Consortia Best Practices

Our experience in providing IT support to standards consortia over the past seven years has taught us to take an integrated, enterprise-level approach to consortia technology infrastructure. A consortium must be run as a responsible business accountable to its members, stakeholders and regulatory agencies and with the ability to consistently apply its own business rules.

Outsourcing the management of the IT infrastructure makes a great deal of sense for consortia when compared with the capital expense and ongoing support burden of building and hosting a dedicated solution.

Managing Membership

A standards consortium must have effective IT support for managing organizational membership information in order to operate responsively. The membership management system forms the foundation of the IT infrastructure and plays many vital roles.

In addition to capturing and keeping track of members' profiles and contact information, the membership system must incorporate the notion of multiple levels of membership and the rights and privileges that each level implies. It should support the organization, company, and individual member hierarchy and associate individuals with the appropriate member company. It can serve as the authentication mechanism for providing access to members-only content and services, and allow organization administrators to assign discrete roles and permissions to individuals. Ideally, the system should be web-based so that members can administer their own profile and maintain their own passwords/user Ids - thus saving the secretariat staff a considerable amount of time and effort.

The membership system has other important roles to play, including:

- facilitating the tracking and collection of dues
- differentiating members in good standing from those who are delinquent in their renewal fees
- generating up-to-date directories of member companies and rosters of individual membership
- allowing for deactivation of rights and privileges to members as their membership expires
- generating email lists to facilitate member communication
- providing access to real time reports on membership activities

Corporate Governance Requirements – Overseeing Operations

The consortium's board needs visibility and transparency into the operations in order to exercise their responsibilities for overseeing the organization's activities. The IT infrastructure should grant them timely access to reports, allow them to observe work in progress, and provide access to all pertinent documents. A secure collaborative environment accessible only to board members and officers should be provided that includes a repository for financial reports and board proceedings, private email discussion threads, and a balloting system that formalizes the board's decision-making process.

Board members should use the available tools to actively monitor compliance with FTC rules, bylaws and IRS guidelines, review and comment on financial reports, and record their opinions and activities.

Responsible governance dictates that an audit trail exist for all official activity – professionally archived and accessible to auditors and regulators as needed.

Empowering Working Groups and Committees To Do the Real Work

Standards consortia thrive or wilt depending on the effectiveness of a core set of committees and working groups and the management skills of the individuals who chair them. Committees and work groups may meet face-to-face occasionally, but geographically dispersed memberships require good IT support to remain productive between meetings.

Technical committees, task teams and marketing teams all require an on line forum to create their work products and meet their time-to-market goals. There should be IT support that provides a structure for the work and enforces a discipline on the groups' practices.

Chairs should be well-versed in the consortium's policies and procedures and be given the tools with which to manage their committee rosters, actively engage the members in the committee process, assign appropriate roles and permissions to committee members, manage the group's work flow, moderate discussions, record activities, publish and share information appropriately, enforce security guidelines, and protect member privacy. Success requires a strong chair to keep the committee on task and within approved practices supported by a highly-tailored IT infrastructure.

Supporting Group Collaboration

Since groups (committees and working groups) are the mainstay of the standards consortium, their support should be a high priority. Comprehensive support means providing both secretariat services for facilitating and recording a group's proceeding and a specific set of web-based applications. Committee collaboration is different than more common forms of collaboration common within corporations or deployed in support of a supply chain. Committee collaboration in the standards consortium is a consensus-building process. There is no project leader who can dictate the outcome. The chair functions as a facilitator.

Among the tools that must be at the disposal of the chair and the committee members are:

- secure document repositories
- document revision history
- tools that support the standards development work flow
- a system for capturing comments and requests
- discussion tools for building consensus
- formal balloting system for making binding decisions and recommendations
- a notification system to keep members informed of events and work progress
- action item assignment and tracking
- shared event calendars
- web and phone conferencing support

Ideally, these tools should be integrated together into a private work environment accessible only to members in good standing with tools that facilitate sharing and publishing of documents and ballot results at the appropriate time.

Facilitating IP Disclosures

At an early stage in the development of a standard specification, members are required to disclose patents (granted or applied for) or other IP that may have a direct bearing on the industry's ability to implement the specification. If the disclosed IP is deemed "essential" to implementation of the standard, then the disclosing company is bound by the intellectual property rights (IPR) policy of the organization. Most IPR policies require member companies to grant a license to that IP to the organization in a reasonable and nondiscriminatory fashion. A disclosing company's need to protect its IP with standard corporate confidentiality agreements is often in conflict with the consortium's more open policies at this stage. It isn't practical to have each member company review and sign each discloser's confidentiality agreement since such a

practice could impose a heavy legal burden and impede the progress of the review process.

It is necessary, therefore, to provide a secure, private forum for patent disclosures that limits access to sensitive information to those with a compelling need to know, i.e. those directly involved in making the essential IP determination. Security is of the essence during disclosures since some patents are not laid open during the application process and they may or may not be deemed essential. An inability to provide a secure forum for disclosures can, and perhaps should, deter prospective members from participating in the organization.

Furthermore, it is vital for members to know specifically what specification draft they are disclosing against. The technology infrastructure, therefore, must include document revision history and/or version control capabilities overlaying its document repository.

A smooth and complete IP disclosure stage is critical to the organization progress and must be supported with a clear organizational policy, rigorous oversight and secure IT support. The case of Rambus vs. Infineon, a 10-year legal battle, is a good example of a case where the disclosure process went awry to the detriment of all organizations who subscribe to SDRAM standards and any company who consumes SDRAM products.

Compliance and Certification

Once a standard has been approved for implementation, there must be a method for determining whether a vendor's implementation actually meets that standard. Certification of compliance or rejection for noncompliance help guaranty that products designed to the standard achieve the level of interoperability desired and protect the integrity of the standard as a "brand".

The organization's technology infrastructure can play a major role in facilitating compliance testing and certification by:

- handling candidates' applications for testing services
- providing downloadable specifications and test suites
- facilitating events such as "plug-fests" where members can test their product's ability to interoperate
- tracking each product's progress through the testing and certification procedure
- maintaining a database of tested and compliant products
- providing a directory of compliant products with links to product and sales information

Conclusion – the Need for a Standard for Standards

Across the globe, hundreds of standards organizations (standards consortia, national standards bodies and standards developing organizations) organize to create and publish open standards intended to promote interoperability among vendor products in the technology industry. The entire industry relies on standards to reduce development costs, speed delivery of products to market, and eliminate technical barriers to trade. Standards bodies provide a framework through which member companies and their individual representatives support the health of existing



www.kavi.com

Kavi Corporation
225 SE Main St.
Portland, Oregon, USA 97214

industry sectors and accelerate the creation of new industries through their collaborative efforts.

Successful creation, promotion, and adoption of standards requires a solid, secure, and comprehensive technology infrastructure. The quality of this infrastructure is a determining factor in the success or failure of a standards body. The infrastructure and its management exert a strong influence on an organization's operations, consensus-building process, time to market, management of workflow, record keeping, ability to observe its bylaws and its ability to apply best practices to its standards development processes.

Kavi Corporation, in cooperation with leading standards organizations, is engaged in an effort to build and support a technology platform and application set that will become the standard platform for standards organizations and lead to widespread observance of best practices and responsible governance.