



ADVANCED CYBER SECURITY CENTER

A National Center Hosted at The MITRE Corporation

AN INITIATIVE OF

Mass Insight

GLOBAL PARTNERSHIPS

Motivated by the growing cyber security threats faced by all sectors of society, we have embarked on a major collaborative initiative between the Advanced Cyber Security Center's 16 charter members, drawn from key industries and the Commonwealth of Massachusetts and hosted at the MITRE Corporation, and the five charter university partners in the Massachusetts Green High Performance Computing Center (Boston University, Harvard, MIT, Northeastern and the University of Massachusetts).

This first stage of what will be a much broader New England alliance will bring together unmatched intellectual, industrial, business, and government assets unique in the nation for scale, quality and focus. Over the next months and building on the white paper and its executive summary (attached), a more formal planning process is expected to finalize the details of the structure, priorities and programs of the consortium.

The goal, shared by our government, industry and university partners, is to establish New England as a national leader in confronting current cyber security challenges, in developing best practices, in having a sustained inter-university program in next generation cyber security research, and in being recognized as a national leader in cyber security education and workforce development.

We are confident that our partnership will develop into a successful consortium through an evolution of the current New England Advanced Cyber Security Center. This broader vision is driven by the recognition that the increasing sophistication of cyber threats requires sustainable collaborative research, development and implementation efforts supported by state and federal government, universities and the private sector.

The New England region is committed to be a global leader in confronting current and future cyber security challenges and to reinvigorate Route 128 to be the “national cyber security beltway.”

The New England Advanced Cyber Security Center: An Industry-University-Government Partnership

Executive Summary

September 2011

The purpose of this white paper is to articulate a vision for the New England Advanced Cyber Security Center (ACSC) bringing together stakeholders involved in formulating, developing, and employing solutions to the extremely challenging cyber security problems facing society in virtually every sector of modern life. These stakeholders represent communities from industry, universities and government, reflecting the broad nature of cyber security. **The goal of the ACSC is to establish New England as a regional cyber security powerhouse with leading organizations that are major developers and first adopters of the most sophisticated security practices and technologies, with a vital cyber security technology industry of larger and emerging firms, and as a national focal point for cyber security research, education, and thought leadership.**

Global Industry Analysts, Inc. estimates that the global cyber security market will reach \$80B by 2017.¹ The resulting cyber security innovation ecosystem promises to provide solutions to industry-specific and cross-sector cyber security threats; stimulate interdisciplinary R&D across a broad range of critical issues in cyber security; develop educational and internship programs supporting work force development efforts, create jobs, and spur sustainable economic development.

Because of the size and growth of cyber security markets and growing impacts from the cyber threats, **cyber security is both a business opportunity and a significant threat to the US and to New England, in particular.** We believe that New England is in a very strong position to become a cyber security leader with national impact by stimulating economic development through R&D and education partnerships that grow talent, new firms and jobs.. New England is unique in having a combination of leading corporations and universities in technology, business management, finance, law, economics, psychology, medicine and other areas critical to defending against the cyber security threat.

This is a particularly opportune time for such an initiative to draw these capabilities together because current approaches are clearly not working to the level required.² However, to be effective, we must integrate the capabilities of all our institutions to address this national challenge.

The integration of these capabilities requires an organization designed to promote exceptional communication, networking, and collaboration to achieve ambitious goals. This is the purpose of the ACSC.

¹ Global Industry Analysts, "Cyber Security: A Global Strategic Business Report," April 2011

² Bass, D., "Hacker Armageddon", Bloomberg News, 4 August 2011

Mass Insight Global Partnerships has been developing the ACSC initiative for nearly two years following a recommendation from the Advisory Committee for the 2008 Mass Insight/McKinsey IT, Communications and Defense Sector study. In that time, the ACSC has completed the initial planning, organization and first phase launch, notably the following:

- Defined the initial vision and plans and established a membership model with 16 charter members and affiliates from leading New England industry, academia, and government organizations. These member organizations participate in regular steering group meetings to determine the actions of the ASCS
- Organized working groups to address three priority areas:
 - Threat evaluation and information sharing
 - Research and Education
 - Policy and legal issues
- Released an initial inventory of cyber security academic resources in New England
- Established a Strategic Advisory Board with nationally recognized leadership to provide oversight and to aid in various outreach actions to external organizations
- Organized and filed a Massachusetts non-profit corporation

The ACSC is intended to be a focal point for cyber security information and collaboration among New England organizations, a bundler and broker of intellectual assets in the region, and a link among initiatives across the region and between regional and federal government initiatives. Moreover, we will leverage several facilities in New England, notably the Massachusetts Green High Performance Computing Center and major university institutes and laboratories.

More specifically the ACSC has the following goals.

- **Facilitate sharing of information and data concerning major cyber security threats** both within and among industry sectors. Organize cyber security data and information collected from members, ACSC workshops and conferences, and outside sources. Provide member access to this information through an ACSC Executive Director's office and support real-time sharing of threat info through a **Secure Web Portal**. This information will also include research project descriptions, industry best practices in cyber security management and planning, directories to the skills and products of companies, researchers, and educators. In particular, our focus will be on actionable information that our members can use to improve their operations, both in the near-term and more strategically in the longer-term.
- **Create world-class research collaboration in New England by stimulating innovative relationships among our major universities and industry laboratories.** Our research priorities will include both near-term member priorities and longer-term fundamental research concepts necessary to create breakthrough capabilities and to stimulate new industry for economic development. We will conduct workshops, conferences, and lecture series in state of the art research areas in cyber security, as well as develop other community-building initiatives creating a cross-university connected research community.

- **Sponsor focused R&D projects of priority interest to members and stimulate the creation of fundamental research proposals to outside sponsoring organizations.** These R&D projects will span near-term translational projects to breakthrough transformational projects and enable the performance of classified research, as needed. Use the collaborations and facilities of the ACSC to make New England the leading region for cyber security research. Industry members have committed initial funds for planning research that will shape large-scale federal grant proposals.
- **Work with education and training institutions to develop world leading cyber security educational and training programs to create an effective cyber workforce in New England.**
- **Engage the investment communities in assisting in the development and launching of new businesses based on solutions developed by industry or academic members of the ACSC.** The ubiquity of cyber security threats and the critical engagement of the entire innovation pipeline provide a fertile ground for robust and sustainable economic development in New England.

One of the major facilities of the ACSC will be the Bedford Center in space that has been provided to the ACSC by the MITRE Corporation. This 4000 square foot facility will house cyber security analysts from our member organizations and perform operations essential to the ACSC. In particular, this will be the center for much of the tactical cyber security information sharing critical to enterprise operations. The **current bi-weekly threat review meetings** and **quarterly technology interchange meetings** of the **Threat Evaluation and Information Sharing Working Group** are now being held in this facility. We expect that the facility will be fully complete and operational in the first quarter of 2012.

The strategy for funding the ACSC is based on a three-phase approach.

- **Phase 1:** Organize the cross-sector IT leadership of 16 members for initial core, multi-year funding, provide operational benefits and links to university assets for R+D and education, build policy leadership to support these efforts.
- **Phase 2:** Expand membership to 25-30 and build funding to \$1.5 million+ annually to support a full time Executive Director with a local core staff and continued MIGP support for strategic development, communications, industry-university partnerships, and policy.
- **Phase 3:** Through competitive federal funding for contracts and grants, build the ACSC into a major \$20-30 million nationally significant Center that supports the New England region's emergence as a leader in cyber security.

Currently, we are in Phase 1 with many of the above objectives met. Our next steps are to continue the growth of our core membership, to complete the definition of our management and governance policies and procedures, and to enhance and expand the operation of our three working groups. By the end of 2011 we will develop outstanding proposals for both near-term and longer-term research projects as part of a full-scale plan for industry-university-government R&D partnerships. There is much work ahead. However, establishing and operating the ACSC is an achievable and important goal for New England and for the U.S.