

# THE COMPUTERWORLD HONORS PROGRAM

## CASE STUDY



LOCATION:  
*Herndon, Virginia,  
United States*

YEAR:  
*2006*

STATUS:  
*Laureate*

CATEGORY:  
*Business and Related Services*

NOMINATING COMPANY:  
*VeriSign*

### ORGANIZATION:

**Certipath**

### PROJECT NAME:

First commercial PKI bridge between Government and Industry

### Summary

Heralded by some as one of the biggest breakthroughs in the dynamic discipline of identity management, the development of the CertiPath Public Key Infrastructure (PKI) bridge provides a commercially compelling mechanism for businesses to avoid the onerous cost and complications traditionally associated with executing secure electronic interactions across multiple partners, suppliers and government entities. The CertiPath PKI bridge offers the opportunity for millions of individuals to interoperate across hundreds of companies and multiple governments' agencies at previously unattainable levels of assurance. Participants can now 'request once, and reach many' – dramatically reducing the time, complexity and expenses associated with preceding methods of digital certificate enablement – laying the foundation for the next generation of global digital commerce.

### Introductory Overview

The Status Quo Has To Go

In a multi-billion dollar marketplace founded on clinical execution, transactional integrity and rapid time to market, the aerospace and defense industries are in some ways the personification of today's complex, high stakes business world. The multifaceted nature of every project invariably involves a globally distributed network of collaborators, aligned to pursue a common goal.

The inherent charter of aerospace and defense initiatives dictates unparalleled levels of risk mitigation in order to ensure that no elements are vulnerable to compromise. It is therefore critical that the innumerable interactions and communications that drive the industry are able to be conducted in a secure and trusted manner, without fear of inappropriate interference.

Many projects start as a government contract award given to one or more primes and their supply chains. The US Department of Defense (DoD) and the British Ministry of Defense, require that each prime, and in turn their supply chain members, protect project data as though it were still under the DoD's control. The security requirements embrace assurance of security, integrity and identity validation. Operating within such an environment has traditionally burdened participants with substantial overhead that diminished project efficiency and imposed a detri-



# THE COMPUTERWORLD HONORS PROGRAM

## CASE STUDY

**ORGANIZATION:**  
*Certipath*

**PROJECT NAME:**  
*First commercial PKI bridge  
between Government  
and Industry*

**LOCATION:**  
*Herndon, Virginia, United States*

**YEAR:**  
*2006*

**STATUS:**  
*Laureate*

**CATEGORY:**  
*Business and Related Services*

**NOMINATING COMPANY:**  
*VeriSign*

mental depletion of critical resources.

Efforts directed towards streamlining the process and trustworthiness of communications have the potential to provide exponential returns that ripple throughout the industry and positively impact the economics, speed, coherence and integrity of every project, and the communities that it touches. The challenge is getting concurrence around specific security requirements and implementations amongst industry and governments.

### Benefits

The Results Are In

The CertiPath PKI bridge facilitates collaborative engineering, secure document and email exchanges, digital signatures and non-repudiation of transactions, as well as transaction security between systems for all enabled PKIs that have credentialed their users.

By enabling credentialed partners to be automatically endorsed with other partners without the need to create individual trusted relationships between each and every entity, the CertiPath implementation has simplified PKI-use and reduced the cost of establishing and maintaining secure relationships with globally-dispersed customers and suppliers.

Customers with existing PKIs realize a significant reduction in required costs through only having to cross-certify once to gain approved access to other Aerospace and Defense companies and government agencies – the latter through CertiPath's cross-certification with the US Government's Federal Bridge. The Federal bridge provides secure interoperability with most major U.S. Governmental departments, such as the Department of Defense, Department of Homeland Security, State Department, Treasury Department, and National Air and Space Administration.

### The Importance of Technology

There had to be a better way

With the ever present dynamic of project inefficiency, the rapidly growing acceptance of PKI-based credentialing became the catalyst for change in the aerospace and defense industry. PKI, typically used for e-business applications, is a system of digital certificates and registration authorities that verify and authenticate the validity of participants. Public Key Infrastructures use advanced cryptographic algorithms to simultaneously create keys to provide encryption, signatures and other similar functions for authentication, confidentiality, non-repudiation and integrity.

The initial requirement for a PKI bridge came from the aerospace and defense industry in order to inter-operate with the U.S. Department of Defense, with a secondary need of exchanging PKI-enabled data with other suppliers in a trusted manner. The increasingly important global aspects of interactions with the United Kingdom, European Union, Canada, Asia Pacific and Australia, led to the decision to create a consortium of companies with competencies in security and communications.

CertiPath was formed in 2003, and two years later, three companies, ARINC, Exostar, and SITA, joined forces to turn the now proven concept into a production PKI bridge specifically designed to meet the stringent requirements of the U.S. Department of Defense, the British



# THE COMPUTERWORLD HONORS PROGRAM

## CASE STUDY

**ORGANIZATION:**  
*Certipath*

**PROJECT NAME:**  
*First commercial PKI bridge  
between Government  
and Industry*

**LOCATION:**  
*Herndon, Virginia, United States*

**YEAR:**  
*2006*

**STATUS:**  
*Laureate*

**CATEGORY:**  
*Business and Related Services*

**NOMINATING COMPANY:**  
*VeriSign*

Ministry of Defense, and their suppliers. VeriSign was selected to assist in the joint endeavor due to its strong standing, reputation for innovation, product portfolio, and overall experience in deploying and managing high assurance PKI Certification Authorities and associated infrastructures.

### Originality

Initially targeted at the international aerospace and defense community, the CertiPath PKI bridge enables the transfer of secured and authenticated data globally across participating companies in any industry and domestic and foreign government agencies, potentially empowering millions of users. This shared trust network drives down the costs of using PKI globally, as well as the cost associated with maintaining secured customer and supplier relationships on a one-on-one basis.

Prior to the development of the CertiPath PKI bridge, there was no effective way for aerospace and defense companies to avoid the traditional cost and complexity typically associated with executing secure electronic interactions across multiple partners, suppliers and government entities. In fact, no industry had access to the facilities of a commercially viable PKI bridge or cross-bridge certification – the inclusion of a mechanism acceptable to government entities made this challenging endeavor insurmountable before the advent of the CertiPath bridge. Each individual relationship required the creation of a unique and non-transferable guaranty of integrity. The CertiPath PKI bridge now allows participants to ‘request once, and reach many’ – dramatically reducing time, complexity and cost associated with the previous methods of obtaining certificates.

### Success

As testimony to its effectiveness, CertiPath has rapidly become the recognized trust hub for aerospace and defense industry entities. In the space of less than one year, market-sector giants such as The Boeing Company, Lockheed Martin, BAE SYSTEMS, Raytheon, Northrop Grumman and EADS/Airbus have publicly embraced CertiPath as charter customers, adding to the growing momentum of an innovative solution that just makes compellingly good sense.

Prior to CertiPath there was no effective way to correlate actual identity with electronic identity outside of ones’ own organization. To utilize the full potential of electronic infrastructures, people must be free to collaborate and exchange information in a trusted manner across multiple organizations. The CertiPath solution offers an opportunity for millions of individuals to interoperate across hundreds of companies and government’s agencies at previously unattainable levels of assurance. The creation of the CertiPath PKI bridge now means that an infinite number of identities can be confidently assured in a timely and highly efficient manner — laying the foundation for the next generation of global digital commerce.

### Difficulty

Trust is a Must

The PKI bridge implemented by VeriSign for CertiPath facilitates the highly complex task of performing secure trusted identity assurance between organizations and their partners and



# THE COMPUTERWORLD HONORS PROGRAM

## CASE STUDY

ORGANIZATION:  
*Certipath*

PROJECT NAME:  
*First commercial PKI bridge  
between Government  
and Industry*

LOCATION:  
*Herndon, Virginia, United States*

YEAR:  
*2006*

STATUS:  
*Laureate*

CATEGORY:  
*Business and Related Services*

NOMINATING COMPANY:  
*VeriSign*

customers through the first commercially managed PKI-based bridging mechanism. By creating a bridge — which cross-certifies entities to a common standard — identities can be assured, authenticated and trusted. The PKI bridge enables the transfer of secured and authenticated information globally between subscribing companies, and between approved participants and domestic and foreign government agencies.

As an acknowledged leader in the field, VeriSign's infrastructure was already cross-certified with the federal body responsible for Bridge Certification, providing added credibility for the newly-formed CertiPath company in an industry where tenure is typically measured in decades. The solutions enable CertiPath itself to function as the Registration Authority and the administrator of the Certificate Authority.

Notably, CertiPath is the first bridge to cross-certify with the US Federal Bridge and is widely accepted as being the first PKI bridge trust relationship in a production capability anywhere in the world. CertiPath's service includes a second Root Certificate Authority that allows for the subordination of an enterprise's own PKIs to avoid the complexities of writing specific policies. CertiPath also functions as a central repository for all currently active and revoked cross certificates in the associated trust chain.