

Secure Your Network Traffic End-to-End.

Preserve Your Investments.

You're maintaining your investments by retaining legacy mainframe applications.

You're extending your operations by allowing SNA data to be shared with partners over IP network.

THE SITUATION

RUNNING LEGACY APPLICATIONS OVER IP

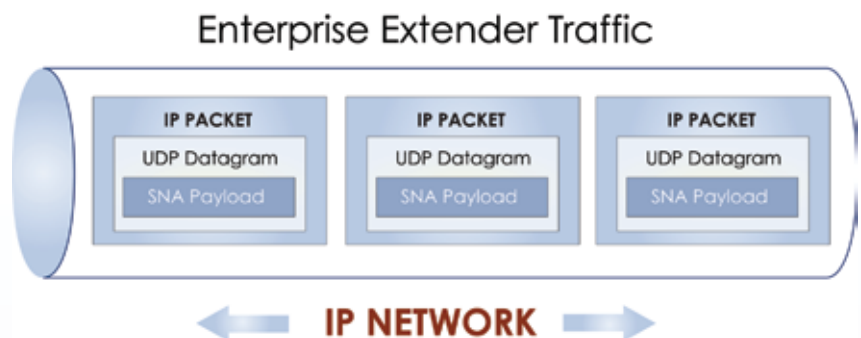
The need to consolidate multiple network architectures into a single, multi-protocol infrastructure is a challenge faced by many companies today. Internet Protocol (IP) architecture is chosen because it is reliable, high-speed and can also support a wide range of other protocols.

Adding to this challenge is the fact that there remains a significant number of businesses that rely on legacy applications based on IBM's Systems Network Architecture (SNA). IBM estimates that as much as 70 percent of the world's corporate data is accessed by more than a trillion lines of z/OS resident application code.

By running SNA over IP significant cost savings can be realized especially if secure, end-to-end connections can be maintained over the Internet. To help customers avoid the painstaking effort and expense of rewriting or replacing their SNA applications with IP equivalents, IBM developed Enterprise Extender (EE).

THE NEED FOR ENTERPRISE EXTENDER (EE)

EE provides a means of transporting SNA data over an IP network by efficiently encapsulating SNA High Performance Routing (HPR) frames in User Datagram Protocol/IP (UDP/IP) datagrams. By wrapping the SNA payload in this way, EE enables SNA data to be carried over an IP backbone without changing either the SNA applications or the IP hardware.



The EE use of the 'connectionless' UDP protocol provides excellent performance characteristics and, since UDP does not contain error recovery or flow control, overheads are low. UDP also offers a very direct way to send and receive datagrams (packets) over an IP network. In addition, UDP packets can be prioritized by routers based on port numbers contained in the packets. A further advantage of transporting SNA data with EE is its ability to utilize the very high-throughput capabilities of Open Systems Adapter/Express (OSA/E) adapters operating in Queued Direct Input/Output (QDIO) mode, providing much higher bandwidth than previously available with SNA networking hardware.

Now secure your business critical network traffic via Enterprise Extender end-to-end

with ZEN EE SECURITY – APIAS.

THE NEED FOR ZEN EE SECURITY - APIAS

The high-speed characteristics of EE are not always consistent with the maximum levels of security required for business-critical network traffic. Many sites will not allow UDP traffic to flow across their network due to concerns about the integrity of the data. In doing so, they effectively rule out the use of EE.

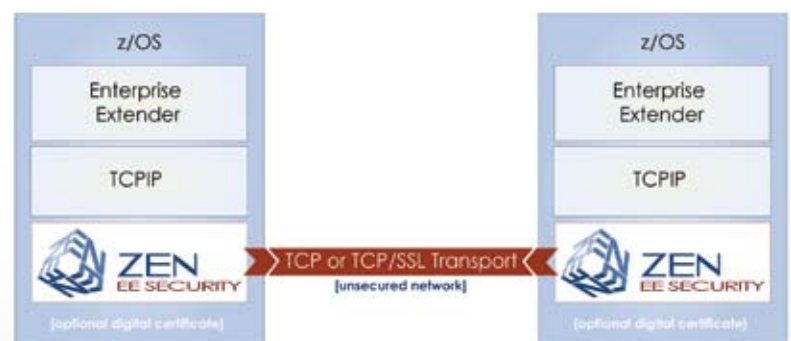
In its simplest form, EE offers no data integrity. Data is not encrypted, there is no authentication and, in the case of a business-to-business application, the data would potentially have to traverse the Internet unprotected. Furthermore, sites that deploy multiple IP stacks per Logical Partition (LPAR), perhaps for network traffic isolation or security reasons, are unable to fully exploit EE since it can only use one IP stack per LPAR at a time. For those sites, this restriction imposes limitations on their preferred network topography.

To remove the EE inhibitors and simplify the implementation of a SNA-over-IP infrastructure, William Data Systems has developed ZEN EE SECURITY – APIAS, also known as ZEN EE SECURITY.

THE SOLUTION

ZEN EE SECURITY

For most companies, protecting business-critical data is vital while reducing cost is an imperative. By deploying EE with ZEN EE SECURITY you can feel safe in the knowledge that security is not compromised. Available for all platforms where EE is available, ZEN EE SECURITY provides a range of security options and additional functionality that add value to the base IBM EE offering, whether in the datacenter or at the branch level (2216, Cisco SNAsw, etc.). ZEN EE SECURITY applies the industry standard security facilities of digital certificates and Secure Sockets Layer (SSL) to the SNA payload, ensuring that data is fully encrypted and authenticated.



ZEN EE SECURITY Architecture

ZEN EE SECURITY offers a choice of three key features, each of which plays a unique role in securing SNA traffic across an IP network. A fourth feature, the Digital Certificate feature, is incorporated in the SSL feature and can be optionally added to the other two:

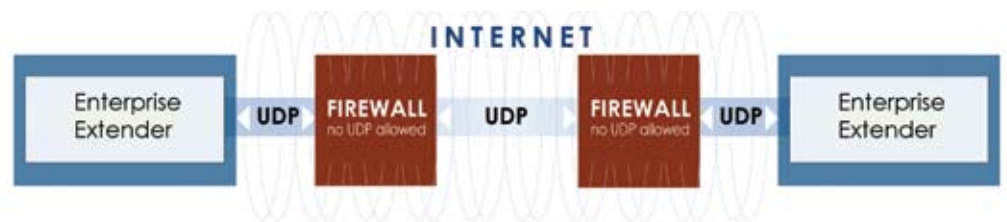
Key Feature:	
SSL Feature	Includes DC Feature
TCP Feature	DC Feature Optional
Multiple Stack Feature	DC Feature Optional
Optional Feature:	
Digital Certificate (DC) Feature	

TCP TRANSPORT FOR EE

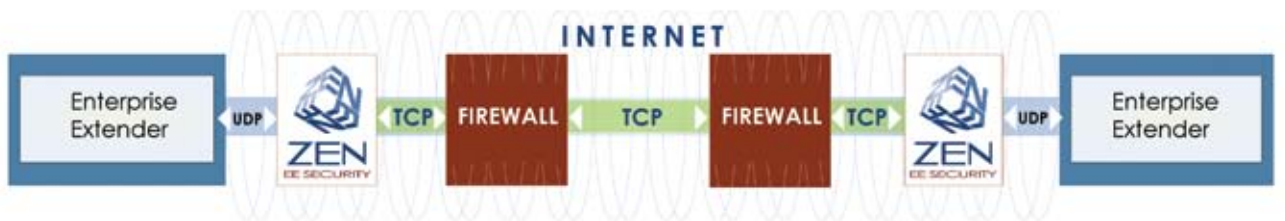
ZEN *EE SECURITY* TCP Transport is a unique product solution that allows EE to be deployed without any dependence on UDP. It takes the EE SNA payload and ships it across the network in TCP packets rather than on UDP. This immediately removes a possible objection to EE that, without ZEN *EE SECURITY*, would be reliant on UDP and its associated poor security characteristics.

The ZEN *EE SECURITY* TCP Transport for EE feature further enhances security by enabling session partners to be authenticated via the optional ZEN *EE SECURITY* DCA feature, or by deploying IBM's AT-TLS network security feature.

UDP Traffic is often blocked by firewalls



ZEN *EE SECURITY* TCP TRANSPORT removes this restriction



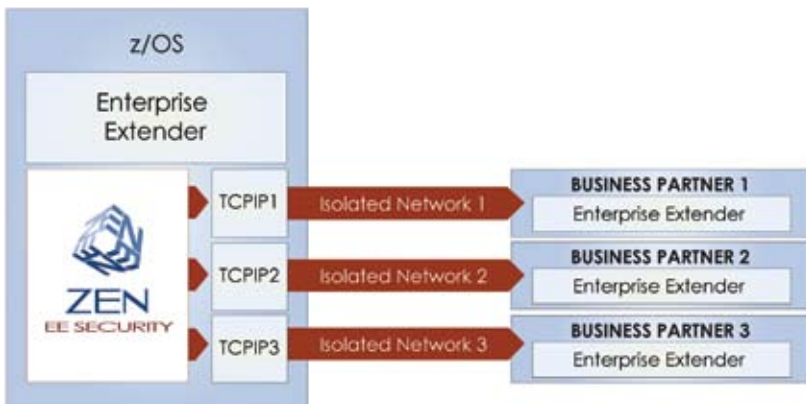
SUPPORT MULTIPLE IP STACKS FOR EE

Primarily for network traffic isolation (security) reasons, some sites use multiple IP stacks. IBM's Communications Server allows Virtual Telecommunications Access Method (VTAM) to communicate with multiple IP stacks concurrently. Unfortunately EE can only use one IP stack per LPAR at a time. This restriction imposes limitations on a company's preferred network topography.

ZEN *EE SECURITY* provides a very simple and low-cost solution to the EE 'Multiple Stack' restriction. The ZEN *EE SECURITY* Multi-Stack feature allows ZEN *EE SECURITY* to route EE traffic between IP stacks. This feature requires very little configuration and can be deployed quickly. No changes to existing IP stack configurations are necessary so existing security standards are not compromised.

The ZEN *EE SECURITY* Multi-Stack feature also allows session partners to be authenticated via the optional ZEN *EE SECURITY* DCA feature.

Enterprise Extender can only “talk” to one IP stack unless ZEN EE SECURITY is installed.



DIGITAL CERTIFICATE AUTHENTICATION FOR EE

A digital certificate can be thought of as an electronic passport that proves the user and application are who they say they are (authentication). Each certificate consists of a unique public and private key combination. What a public key encrypts, only the corresponding private key can decrypt (and vice versa).

Typically, digital certificates are associated with authenticating SSL traffic. The ZEN EE SECURITY DCA feature for EE also provides support for SSL traffic. It is incorporated as part of the ZEN EE SECURITY SSL support. However, the DCA feature can also be optionally added to the TCP Transport and Multiple Stack features to provide the most extensive end user authentication capability between EE users, irrespective of whether they are based on TCP/IP, UDP or a combination of the two.

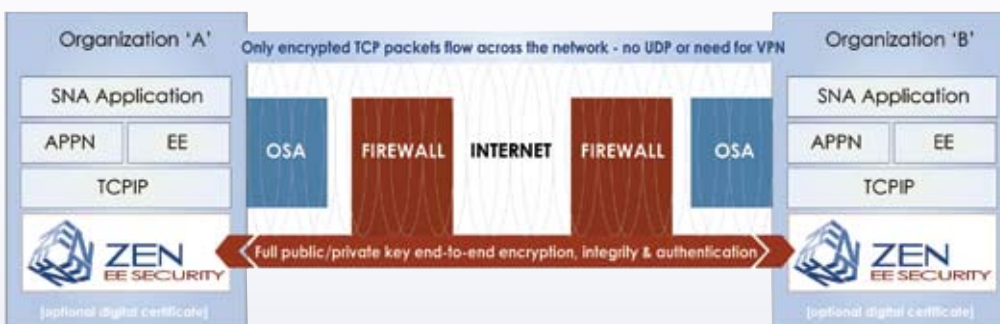
SSL ENCRYPTION AND AUTHENTICATION FOR EE

EE does not support SSL – it uses UDP rather than the TCP protocol required by SSL. This means that end-to-end, session-level security is not possible with EE alone. In addition, without the ZEN EE SECURITY SSL feature especially sensitive e-commerce transactions such as online banking or the replacement of a 3745/SNI inter/intra-company connection may be vulnerable. For businesses requiring maximum protection for their legacy applications, the ZEN EE SECURITY SSL feature provides complete data integrity.

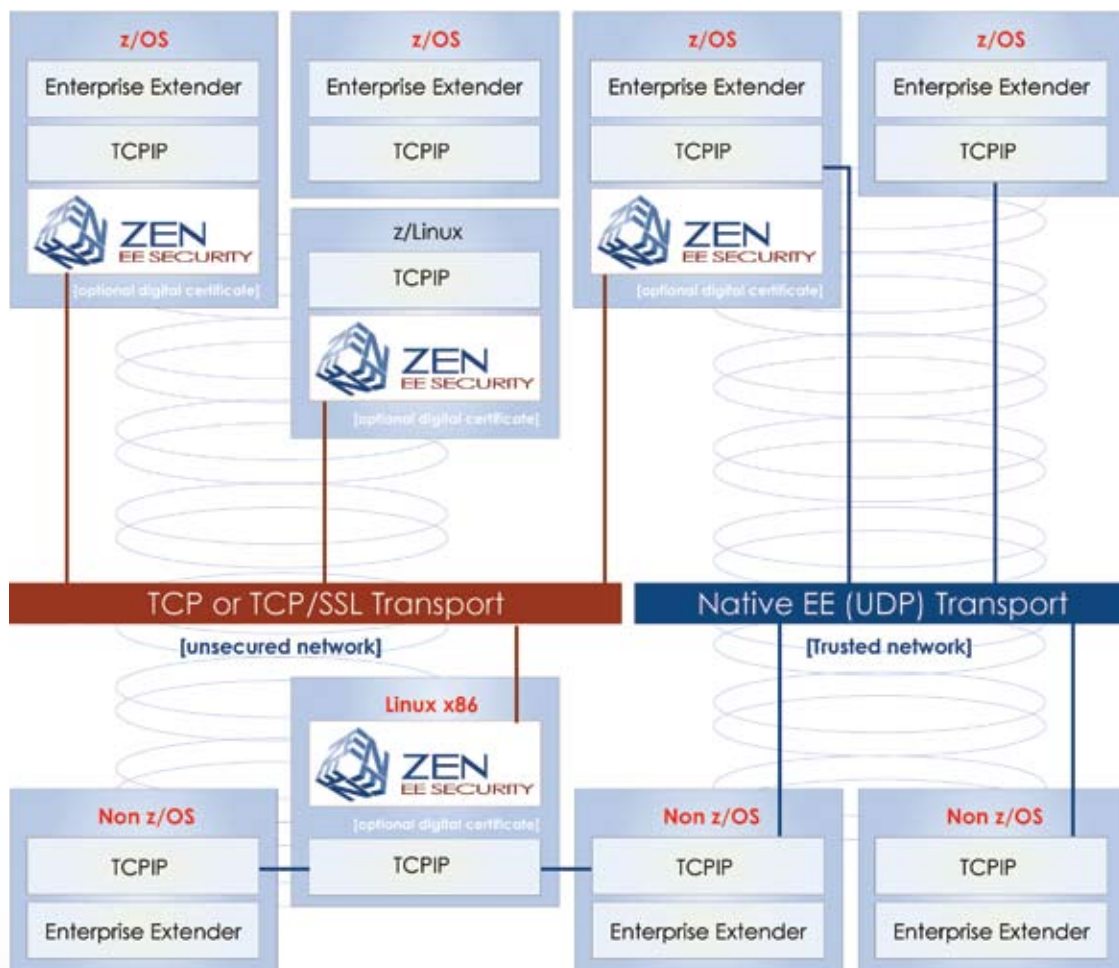
Because it enables full SSL encryption and authentication via digital certificates, the ZEN EE SECURITY SSL feature is a necessity for:

- Business partners who need to exchange information securely via EE;
- Users who need to replace connections based on IBM's withdrawn 3745/SNI technology where maximum security is required; and
- Organizations that need to secure EE at the branch level.

ZEN EE SECURITY with full SSL protects application data end-to-end



ZEN EE SECURITY operates in a variety of network and operating system configurations



FEATURES

- Eliminates potential conflicts with firewalls: no UDP packets traverse the network
- Ensures that data is secured across the internet: only encrypted packets leave the mainframe
- Minimizes the use of resources: ZEN EE SECURITY solution has a small foot-print
- Offers industry-standard SSL/TLS encryption
- Supports industry-standard authentication via digital certificates
- Supports IBM's AT-TLS network security feature
- Minimizes the use of resources: ZEN EE SECURITY solution has a small foot-print
- Enables EE usage in multiple-IP-stack/single LPAR environment
- Secures your network over a variety of network and OS configurations
- Offers versions for all EE supported platforms (Windows™, AIX, Linux etc)

BENEFITS

- Reduces costs by removing the dependency on leased line hardware and associated 3745 hardware and software overheads
- Preserves your investment in SNA applications
- Enables EE deployment securely across any network
- Reduces costs of future growth by removing reliance on aged/obsolete proprietary hardware
- Enables your company's preferred networking topography to be maintained
- Certifies the identity of session partners
- Guarantees data integrity
- Realizes rapid return on investment
- Takes advantage of IP networking advances
- Implements solution with no disruption to core business applications
- Includes exceptional customer support
- Developed by William Data Systems, experts in IBM z/OS network management solutions and EE



**Secure Your Network Traffic End-to-End.
Preserve Your Investments
with ZEN EE SECURITY.**

SUPPORT

As confirmed through an independent survey of William Data Systems customers, we have built an exceptional reputation for outstanding customer support. We provide comprehensive, effective and highly responsive support for WDS products at all stages of their lifecycle.

In addition, a wide range of Professional Services and training programs are available dependent on user demand. These can be held at WDS offices, customer sites or can be managed remotely via web conferencing.

ZEN SOLUTIONS

ZEN EE SECURITY is a prime component of ZEN, the William Data Systems suite of network management solutions. ZEN provides a comprehensive insight into z/OS network operations by offering targeted solutions, adapted to meet your unique business needs.

The suite consists of the ZEN Presentation Manager, a central interface that enables users to integrate and operate tools easily, and a selection of targeted solutions that provide IT performance management, network optimization, monitoring, tracing, automation, reporting and security. ZEN solutions are critical to maintaining business continuity and service levels of z/OS networks.

ABOUT WDS

WILLIAM DATA SYSTEMS

William Data Systems (WDS) is a pioneer of specialized z/OS network management solutions. Established in 1993, we are an independent global organization that provides innovative solutions to run mainframe networks efficiently and securely. ZEN, the WDS network management suite, offers a selection of user-friendly and cost-effective solutions to meet your unique needs. To overcome both business and technology challenges, WDS provides customers with licensing and pricing terms that are as flexible as our solutions.

WDS supports customers worldwide in sectors such as finance, banking and manufacturing, and our client list includes Fortune 100 companies and government agencies. WDS is an IBM Business Partner and a member of the IBM PartnerWorld for Developers program. We are committed to the global z/OS networking market and to leading the way with innovative solutions through the latest advances.

**To learn more about
WDS ZEN solutions,
for support or to contact
our offices, visit
www.willdata.com
or call 877-723-0008**

(toll-free for U.S. domestic calls)



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System z**



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