

## VordelDirector®

### securing your entire XML network

VordelDirector is an XML Security Server, which directs and manages security enforcement throughout an enterprise from a central location. While an XML Gateway filters XML at the network perimeter, it cannot prevent internal attacks; whereas VordelDirector also prevents abuse within the organization by enforcing security at multiple endpoints.

VordelDirector manages security rules across multiple network tiers and boundaries, such as in a Service Oriented Architecture. The product supports sophisticated identity federation scenarios, including Liberty/SAML, and WS-Trust, by processing security tokens inside XML messages. VordelDirector provides centralized management, leverages existing access rules, and pushes intelligence to endpoints.

#### Features

##### Security Agents

VordelDirector's security agents allow it to secure Service Oriented Architectures, where many applications are exchanging XML with other applications, with no single 'choke point' where an XML gateway could be placed. The 'security agent' model also caters for the 'deperimeterization' effect: due to wireless LANs, VPNs, and the widespread use of SSL for encryption, many organizations no longer have a single network access point where they can enforce firewall rules. Vordel is the only Web Services security vendor which provides security enforcement agents to plug into multiple Web Service endpoints.

##### Application Security Integration

In order for application integration to succeed, security integration must also succeed. Without security integration, security solutions remain at a per-project level, with no central means of configuring, monitoring, analyzing and controlling data flows across multiple systems. VordelDirector allows for sophisticated application security integration, including credential mapping and the passing of security assertions inside SOAP messages.

##### Integrate Existing Web Infrastructures

VordelDirector seamlessly integrates into existing Web Infrastructures (e.g. Web servers, application servers and Single Sign-On products), thereby increasing the return on these investments and minimizing the investment required in new infrastructure.

##### Policy Driven

VordelDirector is configurable with policies that combine content-filtering with identity-based rules. In this way, an organization can control both the identities of the users accessing their XML Systems, and also the data that they are sending. Vordel recognizes that content-filtering alone will not block the threat of unauthorized access to Web Services.

##### Identity Management

VordelDirector, via the VordelConnect suite of security connectors, supports and leverages existing Identity Management (IDM) infrastructure to perform authentication and authorization for XML traffic.

##### Attack Prevention

VordelDirector includes a comprehensive set of content-filtering and traffic-analysis rules, designed to protect XML systems from malicious XML data. It protects against XML Denial-of-Service, buffer-overflow attempts, malformed or invalid XML, unexpected MIME-Types in SOAP attachments, application-level attacks including SQL Injection, service scanning, and brute-force "flooding" denial-of-service attacks. The attack prevention functionality in VordelDirector is extensible and pluggable.

##### Administration

VordelDirector includes ease-of-deployment features such as the automatic generation of XML schema validation files from WSDL, console-based configuration for XML content-validation, authentication, authorization, audit and routing; a command-line interface to import and export configuration rules.

##### Real-time Monitoring

Provides real-time alerting and performance-related information. This information can be directed to a network management tool using SNMP and syslog.

##### Web-Based Reporting

A delegated administration model enables administrators to assign users reporting privileges. Reports can be customized, and can contain non-security information such as traffic trends and running totals of XML data element values.

##### Audit Capability

Regulatory compliance requirements are causing organizations to require auditability in their security and transaction monitoring solutions. Vordel has built digital signatures into its audit functionality in order for customers to comply with these requirements.

##### Separation of Security Processing From Business Logic

In keeping with best practice security guidelines, VordelDirector separates the security processing of XML data from the business processing of that data. Security rules are configured and changed centrally, separate from the business logic.

##### Transport Independence

VordelDirector's security agents plug into Web Service platforms, and are independent of the transport used to get XML to the Web Service platforms. For example, a Security Agent may be plugged into an application server which receives XML over an MQ transport. The agent is independent of the MQ transport.

##### Standards Based

Support for all relevant security and XML related standards is provided. Enterprises may use non-XML technologies such as SSL, or new XML security specifications such as WS-Security and SAML, to help secure their XML communications.

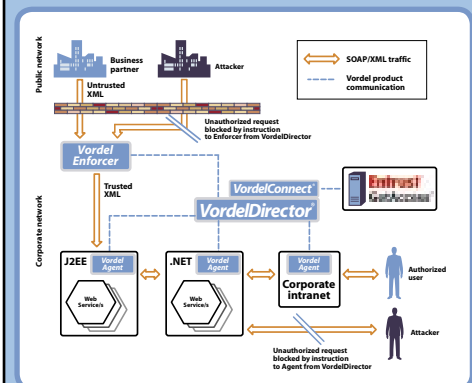
##### API

Vordel's APIs for core XML security technologies include SAML, WS-Security, and XML Signature. These APIs may be used independently of VordelDirector. VordelDirector's Agent API is used to plug security enforcement into application endpoints.

#### Deployment

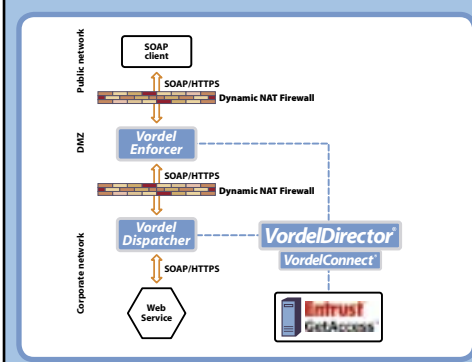
VordelDirector uses agents, which are lightweight security enforcement points, deployed at the XML application endpoint to enforce security by communicating securely with VordelDirector, which grants security permissions and forms the decision-making hub of the entire XML system.

Security agents can be plugged in to Web Service containers to intercept requests to the Web Service. In cases where there is no container for an agent to 'hook' into, a proxy agent, Vordel Enforcer, can filter XML traffic in-line.



In the deployment illustration above, both J2EE and .NET Web Services are secured in a federated transaction environment. Security agents at each XML endpoint authenticate and authorize XML messages by validating security tokens, such as SAML assertions, contained within messages. SAML Assertions can also be inserted into successfully validated messages, ensuring that the client's security context persists across multiple services within an SOA.

In some deployments of VordelDirector, such as the deployment for cross-firewall traffic shown below, a separate routing agent, Vordel Dispatcher, can be deployed for the sole purpose of routing messages to target systems.



## Specifications

Authentication capabilities		
ID/Password	ID/Password digest	HTTP Basic
HTTP Digest	X509.v3 certificates	SAML Authentication assertions
SSL Client Authentication	WS-Security	User mapping
Attack prevention		
XML Denial of Service prevention	XML Intrusion prevention	SQL Injection prevention
External entity attack prevention	Buffer overflow prevention	Message size analysis
SOAP attachment analysis	XML Well-formedness validation	XML Schema validation
Xpath processing	Auto-generation of XML Schema from WSDL	Blacklisting
Digital Certificate Management Solutions		
Entrust PKI certification	PKCS# 1, 10,11,12	X.509 v3 digital certificates
LDAP	XKMS	CRL checking
OCSF	Certificate chain validation for WS-Security & SSL	
XML and Web Services standards		
XML 1.1	XML Signature	XML Encryption
SOAP 1.2, SOAP 1.1 - including SOAP With Attachments	WSDL Masking and URI filtering	WSDL 1.1 & 1.2
SAML 1.0 & 1.1	XML Schema 1.0	XPath 1.0 & 1.2
XSLT 1.0	WS-Trust	OASIS WS-Security
Security standards		
SSL/TLS - server side and mutual authN	OPSEC	OASIS WS-Security UsernameToken Profile
OASIS WS-Security X.509 Certificate Profile	Standard algorithms AES, DES, 3DES, Blowfish, RSA, SHA-1, RSA Keys	RSA (512-4096)
FIPS compliant encryption, FIPS 140-2 level II	HSM MD5	DSA
Diffie-Hellman	Cast-5	AS2 (RFC 3335)
HTTPS 1.0/1.1	HTTP Authentication	
Administration and management		
XML and SOAP Interface	Support for IE, Opera, Netscape	Transport Mapping of protocols - HTTPS, HTTP
Web GUI	Web Service traffic monitoring and reporting	Digitally signed, tamper-evident logs
Segregated and delegated administrative access control	Command line interface for configuration import and export	Exportable policy configuration with Global Device Management
Data archiving to ODBC and JDBC databases	SLA reporting and altering	Runtime request and response processing
Ability to import/export security policies via XML file	Audit of all System administration activities	
Enterprise Platform Support		
Entrust GetAccess	HP OpenView	.NET
IBM WebSphere	BEA WebLogic	Software AG EntireX, Tamino, Mediator
Sun One	Oracle	SAP
Cyclone Commerce	Systinet WASP	CA UniCenter
Peoplesoft	Active Directory	Siebel
Vordel product deployment options		
Enterprise-wide deployment using agents embedded in application endpoints	XML security appliance - information available on request	XML gateway – software, including Intel Itanium 2 (64-bit, high performance) port
Operating Systems		
Microsoft Windows 2000 Server, Advanced Server, Professional and XP		Sun Solaris 2.9
Redhat 6/7/8	Debian 3.0	
Agents		
IIS	Apache	Vordel Agent API for application servers

## Contact Vordel

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