



# ADSS SCVP Server

## RFC 5055 Validation Authority using Advanced Path Discovery and Validation



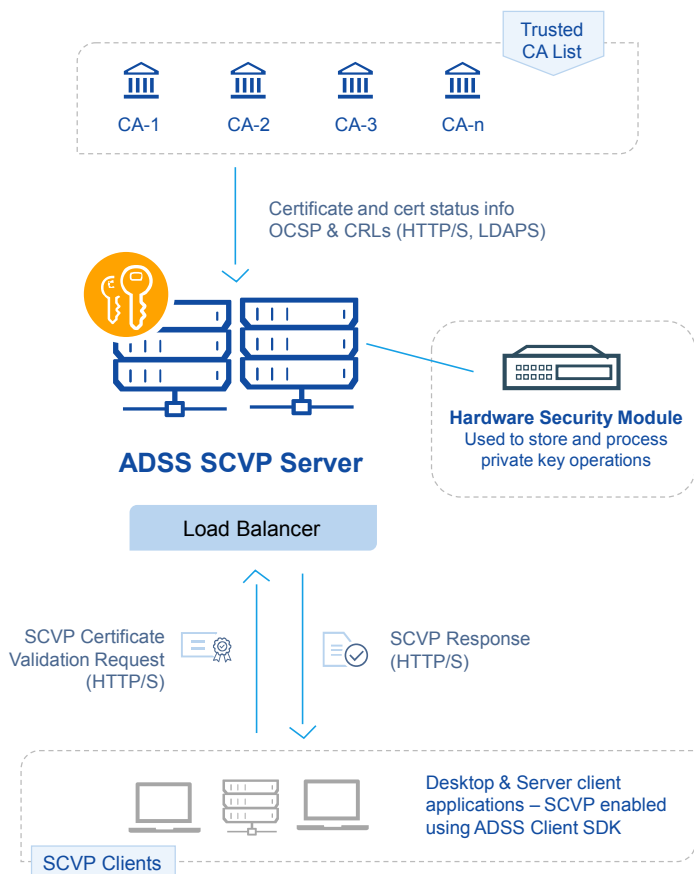
Validating the trustworthiness of digital certificates can be complex and it normally requires sophisticated client-side logic. The RFC5055 Server-based Certificate Validation Protocol (SCVP) standard was created to allow business applications to be less aware and delegate all aspects of certificate validation to a trusted server.

The Ascertia ADSS Server is a multi-function server offering a range of trust services for certificate validation and also digital signature creation and verification, e-ID validation, time stamping and long-term archiving. The ADSS Client SDK provides a very effective SCVP client.

ADSS SCVP Server meets the RFC 5055 SCVP standard for full path validation of X.509 e-ID certificates and is FIPS 201 certified (APL #692). It is Federal PKI PD-VAL certified and is the first SCVP product to pass the updated SHA-2 NIST PKITS path discovery and validation test suite.

Certificate path discovery and validation is complex especially within Bridge CA environments. If certificate handling is to be widely deployed in a variety of applications and environments, the amount of processing an application needs to perform before it can accept a certificate needs to be reduced.

There are a variety of applications that can make use of public key certificates, but these applications can be significantly burdened with the overhead of constructing and validating the certification paths and handling the many PKI complexities. ADSS SCVP Server makes it very easy for one or multiple business applications to delegate the whole trust decision process to a fast, reliable SCVP Validation Authority server with just a few lines of code.



Why use ADSS SCVP Server	
➔	Provides full certificate delegated path discovery (DPD) and delegated path validation (DPV) – this is different to OCSP protocols where the client builds the path and checks each individual certificate
➔	Complies with IETF RFC 5055, including historic certificate validation and is FIPS 201 certified
➔	A great product for in-house deployment and as a solution for Managed Service Providers looking for fast, scalable, secure products featuring detailed logging, transaction log analysis and reporting
➔	Enforces client authentication using SSL certificates, SCVP request signing and/or IP address filtering
➔	Retrieves certificate information and certificate status information from back-end PKIs using AIA, CDP or LDAP based information plus OCSP and CRL data
➔	Includes ADSS CRL Monitor, a powerful watch-dog CRL monitoring, retrieving and alerting module
➔	Supports strong hash algorithms SHA256, SHA384 and SHA-512, RSA 2048 to 8192-bits, ECDSA 256 to 512 bits. Supports FIPS 140-2 HSMs
➔	Provides detailed transaction logs, with effective viewing, searching, reporting and archiving options.
➔	Includes the ADSS Client SDK for easy integration of SCVP protocol in desktop and server applications
➔	Offers a human-readable transaction viewer for SCVP protocol requests and responses
➔	Supports multiple Validation Policies, with their own Trust Anchors and validation algorithm settings
➔	It's easy to install, configure and manage using secure web-browser management screens
➔	Offers strong role-based access controls for administrators and features optional dual controls
➔	Provides HMAC protected system event & operator activity logging
➔	Provides assured throughput, scalability & resilience

## Key Features

**Flexibility:** Supports the configuration of multiple SCVP validation policies each with their own Trust Anchors and detailed validation algorithm parameters.

**Full Validation:** Complies fully with the RFC 5280 certificate path validation algorithm, including support for following aspects:

- Inhibit Any Policy
- Require Explicit Policy
- Acceptable Certificate Policy Set
- Inhibit Policy Mapping
- Permitted/excluded Subject Names
- Trust Anchors
- Acceptable Key Usages
- Acceptable Extended Key Usages

These inputs into the certificate path validation algorithm may be pre-configured within SCVP validation policies or be specified by clients within their request messages.

**Want Backs:** ADSS SCVP Server can return to clients the full certificate path, public key info, revocation status evidence and other related info as specified in RFC 5055.

**High-Availability:** ADSS SCVP Server can be easily implemented as a highly available service to meet demanding service level agreement needs. Multiple servers can work in parallel using standard load-balancing techniques and a resilient secondary site can also be established. Network HSMs, system platforms and database management systems can be used as required to meet availability requirements.

This screenshot shows the detail from just one of the log details screen. Each request/response can be viewed in detail including a drill down screen that shows the exact steps followed in validating the certificate path, ideal for learning why a particular response was given. This saves hours of valuable time from subject experts.

Ask us for further details on ADSS SCVP Server and its sophisticated management options.

**Flexible Trust Model:** The keys used by ADSS SCVP Server can be self-certified, or CA issued certificates. The internal CA module or an external CA can be used.

**Maximum Security:** Strong authentication of clients and operators using certificates. ADSS SCVP Server keys can be managed inside a secure FIPS or CC approved HSM. Logs are tamper-evident. Tight role-based access control is provided and dual control operations are optional.

**Easy Administration:** Simple installation wizard, automated archiving, automated system integrity checking, real-time alerting and other similar features ensure ADSS Server is extremely easy to administer.

**Advanced Functionality:** ADSS SCVP Server has many advanced features such as mandating that SCVP requests are signed, supporting multiple certificates within a single validation request and support for name validation algorithm.

**Historic Validation:** It is possible for clients to validate certificate's trustworthiness in the past. ADSS SCVP Server maintains an archive of old CRLs. This is an essential requirement for verifying signed documents historically especially during dispute resolution.

**Client APIs & Test Tools:** Ascertia provides ADSS Client SDK which offers a high-level API for SCVP in both Java and .NET. An ADSS Server Test Tool is also available for testing purposes.

Log ID	Configuration ID	Response Status	Request Time	Response Time	Request/Response	SSL Cert	Signing Cert	IP Address	Error Code
10	1	SUCCESS	2010-07-01 16:30:24.84	2010-07-01 16:30:25.043	View	-	-	192.168.0.216	-
9	1	SUCCESS	2010-07-01 16:30:24.357	2010-07-01 16:30:24.747	View	-	-	192.168.0.216	-
8	1	SUCCESS	2010-07-01 16:30:24.557	2010-07-01 16:30:24.713	View	-	-	192.168.0.216	-
7	1	SUCCESS	2010-07-01 16:30:24.37	2010-07-01 16:30:24.357	View	-	-	192.168.0.216	-
6	1	SUCCESS	2010-07-01 16:30:23.713	2010-07-01 16:30:24.357	View	-	-	192.168.0.216	-
5	1	SUCCESS	2010-07-01 16:30:23.963	2010-07-01 16:30:24.293	View	-	-	192.168.0.216	-
4	1	SUCCESS	2010-07-01 16:30:23.917	16:30:24.2	View	-	-	192.168.0.216	-
3	1	SUCCESS	2010-07-01 16:30:23.543	2010-07-01 16:30:23.857	View	-	-	192.168.0.216	-
2	1	SUCCESS	2010-07-01 16:29:56.447	2010-07-01 16:29:56.557	View	-	-	192.168.0.216	-
1	1	SUCCESS	2010-07-01 16:29:45.167	2010-07-01 16:29:45.947	View	-	-	192.168.0.216	-

### ADSS SCVP Server Standards Compliance:

- Front-end Interface:** HTTP & HTTPS Server-based Certificate Validation Protocol (SCVP as specified in RFC 5055)
- PKI standards:** PKCS#10, PKCS#7, PKCS#11, RFC 5280, TLS/SSL
- Back-end Interfaces:** OCSP (over HTTP/S), LDAP/S and HTTP/S for CRL Retrieval
- Platforms:** Windows Server 2016, 2012 R2, 2012, 2008 R2, Linux (RedHat, Centos, SuSe, others), Solaris
- Databases:** SQL Server 2016, 2014, 2012, Oracle 12c, 11gR2, 11g, PostgreSQL 9, 8, MySQL 5.x (Percona & Oracle), Azure SQL
- HSM Support:** PKCS#11 or CAPI/CNG compliant HSMs, smartcards or tokens, Gemalto/SafeNet, Thales, Utimaco, Cloud HSMs including Azure Key Vault, Amazon AWS Cloud HSM
- Operator interface:** Mutually-authenticated HTTPS secure web-interface for administrators, plus email, SMS, SNMP & syslog alerting

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