



RSA Access Manager Certified Systems Engineer Certification Exam Study Guide

Introduction

The RSA Access Manager exam is based on the most critical job activities that a certified RSA Access Manager Systems Engineer would need to perform successfully. The examination measures a candidate's proficiency with the Access Manager product from business and implementation perspectives, and sets professional standards for Systems Engineering performance.

A Systems Engineer is a person who works in technical support, sales support or a technical implementation role within RSA Security, an RSA Security reseller or customer organization.

An analysis of the major job functions of a Systems Engineer determined that there are three major areas of job role responsibility:

- Designing customer solutions through understanding and assessing the business needs for implementing a web access solution using the RSA Access Manager product line
- Proposing a solution based on the customer environment
- Installing a solution, starting from an evaluation (proof-of-concept) phase, moving on to a pilot program in a controlled environment, and finally leading the customer through a full-scale deployment.

Candidate Background and Experience

A Systems Engineer should have a minimum of two years of professional experience in the following technical areas:

- NT and/or Unix System administration
- IP, DNS configuration and troubleshooting
- Web servers (Apache, IIS, Netscape)
- LDAP, LDIF fundamentals
- SQL, Sybase (JDBC, ODBC)
- Some programming language (C++, C, Java)
- Boolean Logic

Examination Domains

The RSA Access Manager Certified Systems Engineer examination is comprised of four major Domains (subject areas). Each Domain is represented by a series of questions designed to evaluate competence and knowledge of elements relating to that domain. The following table describes the proportion of the examination that relates to each domain:

Domain	% of Examination
1.0: Authorization and RSA Access Manager Product Fundamentals	40 %
2.0: Assessment / Design Solution	30 %
3.0: Install Solution	20 %
4.0: Support	10 %
TOTAL	100 %

Domain 1.0 Authorization and RSA Access Manager Product Fundamentals

The Systems Engineer must have a fundamental knowledge of web access. This includes an understanding of the uses, application, capabilities, features and benefits of the RSA Access Manager product.

Content Areas

- Web Agents
- Application Server Configuration
- Access Control Modules (ACM)
- RSA Access Manager Components
- Distributed Authorization
- Component Redundancy & Fail-over
- Authentication Methods
- Inter-component Security

Domain 1.0 Sample Items

Which Key Server generates the current Single Sign-On (SSO) encryption key when deploying redundant Key Servers?

- Key Servers cannot be redundant.
- The Dispatcher selects a new 'primary' Key Server.
- The Key Server that was chosen by an election of all the Key servers.
- The Master Key Server is specified after installation in keyserver.conf.

'C' is correct because in a situation of multiple or redundant Key Servers, the Servers do indeed hold an election to determine which will be the 'primary'; 'A' is incorrect because RSA Access Manager does support redundant Key Servers; 'B' is incorrect because the Dispatcher has no role in determining a primary Key Server; 'D' is not correct because you do not 'hard code' the primary Key Server value.

What information is needed when generating the shared secret key for a v3.x Web Agent installation? (Choose two)

- logical Web server name
- number of Web servers in the system
- DNS name of the Web server machine
- whether or not the system is using SSL
- current time of the RSA Access Manager servers

The key here is "v3.x" Web Agent. All Web Agents prior to version 4.x required a shared secret key (4.x agents do not use the key). In order to create the key you need to provide both a logical name ('A') and the DNS name ('C') of the server itself. The number of servers in the system, SSL settings and the current time are irrelevant to the key generation process.

Domain 2.0 Assessment/Design Solution

The Systems Engineer must be able to conduct an assessment of the customer environment, the customer's business needs and architecture. Based on this assessment, the engineer must be able to identify appropriate RSA Access Manager solutions that will meet the customer's needs. The two areas below, Assessment and Design Solution, define the content limits for this test objective, that is, the areas from which questions are created.

Content Areas

Assessment

- How/Why do they plan to use the product
- Which OS does the customer wish to install components on
- What type of resources does the customer need to protect
- Is the customer's organizational structure local or geographically dispersed
- How will Access Manager fit into the customer's current network architecture
- What are the customer's Security Policy requirements
- What is the customer's long term business needs for Access Manager
- Will the customer require customization in their environment

Design

- Data repository strategy (LDAP or Relational Database)
- Securing applications (Web Servers, Application Servers)
- Standard or distributed authorization
- Redundancy & Fail-over/High availability
- Single Site or Inter-Site Single Sign On (SSO vs. ISSO)
- SSL configuration
- Interoperability with RSA products
- Admin and runtime APIs

Domain 2.0 Sample Items

What statement is **NOT** true of the User/Group store? The user/group and the

- policy store can be on the same LDAP master.
- admin store can be on the same LDAP replica.
- admin store can be on the same LDAP master.
- policy store must be on different LDAP replicas.

'D' is the correct answer. RSA Access Manager does not force you to store all policy, admin, and user/group information on separate machines. RSA Access Manager supports all the other configurations listed ('A' – 'C').

Domain 2.0 Sample Items, cont.

When deploying Web Agents across a firewall, ports need to be opened between the agent and which RSA Access Manager components? (Choose two)

- Dispatcher
- LDAP data store
- Entitlements Server
- Authorization Server
- Access Control Module (ACM)

RSA Access Manager agents need to connect to Dispatcher upon startup to receive a list of available Authorizations servers that will service their authentication and authorization requests. Therefore, 'A' and 'D' are the correct choices. Agents do not communicate directly with the other components listed – 'B', 'C', 'E'.

Domain 3.0 Install Solution

The Systems Engineer installs a solution appropriate to the customer environment. The engineer must be able to identify the procedures and configuration issues for installing RSA Access Manager systems and bringing the software to an appropriate operational level to meet the customer's requirements. The engineer must also have the know-how to develop a controlled rollout to customer end-users, assess end-user acceptance, and provide pre-deployment education.

This may involve as many as three phases. The first phase could be an evaluation or "proof-of-concept" phase where the Systems Engineer installs the RSA Access Manager components in a tightly controlled "test-lab" environment for customer evaluation. After a successful evaluation phase, the customer sets up a pilot installation among a small set of identified users of the customer systems. Once a pilot implementation is complete, the Systems Engineer helps or advises the customer on deploying a comprehensive solution throughout the enterprise.

Content Areas

- Product system requirements
- Server configuration
- Service pack requirements
- Underlying products
- Supported OS
- Supported web servers
- Supported enterprise applications
- Supported directory servers
- Development tools
- Licensing
- Installation process of RSA Access Manager components
- Configuration files

Domain 3.0 Sample Item

What is the minimum memory requirement for installation of all components on one machine?

- 64 MB of RAM
- 128 MB of RAM
- 256 MB of RAM
- 512 MB of RAM

If the application, policy and administrative databases are split between multiple data stores, what file must be configured with the data store names?

- LDAP.conf
- aserver.conf
- eserver.conf
- dispatcher.conf

'A' is correct. All data store connection information is stored in either the ldap.conf or sql.conf file (depending on which type of data store you are using). All other component configuration files simply hold pointers to the ldap.conf or sql.conf file to process connections at startup.

Domain 4.0 Support Solution

The Systems Engineer needs to provide support and troubleshoot issues throughout the customer installation phases and after implementation.

Content Areas

- Troubleshoot problem issues
- Log files
- Configuration files
- Know what questions to ask/ where to find information
- Debugging
- Common error messages around roll outs & installation
- LDAP directory permissions
- Inter-component communications
- Resource issues (virtual memory)
- Interoperability issues
- JRE/JDK Troubleshooting

Domain 4.0 Sample Item

What is the first logical step in troubleshooting why Single Sign-On (SSO) is not working on a new installation?

- Restart the Entitlements Server.
- Recreate the user in the Entitlements Manager.
- Enable prompting for cookies on the Web browser.
- Remove and re-add the RSA Access Manager ISAPI filter.

'C' is correct. Single Sign-On is dependant on the user's browser accepting cookies. If you enable prompting, you will immediately see if the Agent is attempting to store the cookie and if the browser accepts the request. 'A' is not correct as the Entitlements Server plays no role in SSO; 'B' is also incorrect as it can be assumed you have already authenticated with a legitimate user and are now trying to access another protected resource, so recreating the user is unnecessary; 'D' is not the first thing you would do and only pertains to specific web server/agent combinations.

What RSA Access Manager component log file will register Administrative API transactions?

- Key Server
- Dispatcher
- Entitlements Server
- Authorization Server

You use Administrative APIs to perform some of the same task as you do in the Entitlements Manager; therefore, 'C' Entitlements Server is the correct answer. This components log file captures transactional details from both the Administrative APIs as well as well as the web-based Entitlements Manager.

Examination Preparation

Product Training

Although RSA Access Manager product training is not a strict requirement in preparation for the RSA Access Manager Certified Systems Engineer Certification Examination, it is highly recommended. Statistics show that candidates are more likely to pass the exam after having attended RSA Access Manager training.

RSA Security offers the following courses that relate to the RSA Access Manager product and material covered on the CSE exam:

- RSA Access Manager Administration
 - *This course covers the fundamental concepts and operating principles of RSA Access Manager technology; end-user organization and administration; system functions; end-user support.*
- RSA Access Manager Installation and Configuration
 - *Assumes prerequisite experience of RSA Access Manager Administration. This course covers installation and configuration of RSA Access Manager system components; deployment planning; strategies for system redundancy and load-balancing.*

For full and detailed descriptions of RSA Security course offerings, visit: www.rsasecurity.com/training/.

Product Experience

Many of the areas addressed by the CSE exam will be familiar to the candidate who has worked with the RSA Access Manager product through installation and configuration of core servers, data stores, Agents, and other components and through familiarity with administrative operations.

The CSE exam content areas cover a wide range of Access Manager product capability because a Certified Systems Engineer may be called upon to install or deploy Access Manager for a variety of requirements or solution scenarios. A candidate who has worked for a long period in one organization (under that organization's specific deployment scheme) may not have a particular advantage over a candidate who has worked for a shorter period of time installing a variety of solutions for a number of organizations. Therefore, it is difficult to quantify a time period of relevant product experience. The general recommendation is that the candidate should actively work with the Access Manager product and components for 3 to 6 months prior to taking the exam – in addition to other preparation.

Study and Preparation Materials

As is common with other industry certification exams, RSA Access Manager CSE examination questions were constructed, reviewed, edited, and refined by groups of subject matter experts. A requirement of each test item is that it be referenced to a definitive source – document, publication, product menu selection, etc. Therefore, a finite set of preparation materials can be recommended for study and exam preparation. Although not all of the materials listed below are available in the public domain, the list does constitute a body of knowledge from which examination test items have been drawn.

- RSA Security Training Materials (Available only as part of an RSA Security training program)
 - *RSA Access Manager Administration Course Student Guide*
 - *RSA Access Manager Installation and Configuration Student Guide*
- RSA Access Manager product documentation (Available on the product software CDs and from RSA Security SecurCare On-Line for RSA Security customers with maintenance contracts. Some of these documents are also available for on-line, print-on-demand purchase by visiting www.rsasecurity.com/go/documentation.)
 - *RSA Access Manager Planning Guide*
 - *RSA Access Manager Servers Installation and Configuration Guide*
 - *RSA Access Manager Upgrade Guide*
 - *RSA Access Manager Administrator's Guide*
 - *RSA Access Manager Developer's Documentation*
 - *RSA Access Manager Agent (various versions and platforms)*

Books and publications

Although the majority of examination questions will **not** be drawn or referenced directly from the publications listed below, a general knowledge and awareness of Information Security may be helpful to implicitly interpret some examination questions.

"Planning for Web Services: Obstacles and Opportunities"

Clay Shirky
Published by O'Reilly
0-596-00364-1

"JavaServer Pages"

Hans Bergsten
Published by O'Reilly
1-56592-746-X

"ASP in a Nutshell"

A. Keyton Weissenger
Published by O'Reilly
1-56592-843-1

"Security Architecture: Design Deployment & Operations"

Christopher M. King, Curtis E. Dalton, & T. Ertem Osmanoglu
Published by RSA Press and McGraw-Hill
ISBN: 0072133856

Examination Details

Testing Centers, Locations, and Registration

The RSA Access Manager Certified Systems Engineer examination is administered by the Pearson VUE organization – an internationally known examination provider. Examination centers are located worldwide. Visit the Pearson VUE web site (www.vue.com) and use the [Test Center Locator](#) to find a testing facility convenient to you.

You may also use the Pearson VUE site to create a personal login account and register for an exam. The RSA Access Manager Certified Systems Engineer exam code is 050-V55-SECLEAR02.

Exam Questions

The RSA Access Manager CSE exam consists of 72 questions to be completed in 90 minutes. The exam consists of multiple-choice, multiple-response, and true/false type questions. The exam is computer-based and closed book – you may not utilize any printed material, personal computers, calculators, cell phones, etc. during the test.

The minimum passing score is 70%. Test results are calculated automatically at the conclusion of the test and testing center personnel can provide you with an authorized copy of your results before you leave the testing center.

Exam Costs

The fee for taking the exam is US\$ 150.00.

Language Availability

The RSA Access Manager Certified Systems Engineer exam is available in English.

What to expect at the Testing Center

You must present two forms of identification; one of which is a photo ID.

You will be required to accept the terms of an RSA Certified Security Professional Certification Non-Disclosure Agreement before beginning the examination.

Re-taking the Exam

There is no limit on the number of times that you can re-take the certification exam. However, to maintain integrity and confidentiality of the test items, 60 days is the required elapsed time before retaking the test a third time. Please note that you must pay the full exam fee each time that you retake the test.