Citrix Core Technologies and Architecture

610 Exam

Enablement Guide

Citrix Education

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Disclaimer—

This Exam Enablement Guide is designed to allow you to assess the types of questions that may be asked during the subject Citrix certification exam. Please be aware that the contents of this guide in no way ensure a passing score on such certification exam.

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Table of Contents

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1 Purpose

This document provides a list of exam objectives for Exam 610 and a list of resources that will help prepare exam-takers for items associated with these objectives. In developing this exam, subject matter experts determined which tasks are essential to designing and implementing a MetaFrame XP server farm. These tasks are listed and are the base upon which Exam 610 was created. Lists of resources available to help exam-takers prepare for the exam are also presented in Section 5: Exam Objectives and Resources for the Exam.

This document outlines, on a high level, topics that are covered in the exam and instruction on how to obtain information on these topics. Exam-takers should read this document carefully before beginning preparation for the exam.

2 The Exam

This Enablement Guide pertains to the Citrix Core Technologies and Architecture Exam (610). The exam is a fifty-two (52) question exam written in English. Native English speakers have sixty (60) minutes to complete the exam. Non-native English speakers who take the exam in English are allotted ninety (90) minutes to complete the exam. The passing score for this exam is 72%. This is a rigorous examination on the subject of the role of an architect as defined by Citrix Systems' Subject Matter Experts.

This version of the exam is based on MetaFrame XP Server, Feature Release 2.

The exam is administrated through Prometric. For details on the rules and procedures associated with registering for the exam, please go to http://citrix.com/edu.

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3 Preparatory Recommendations for the Exam

Prior to taking this exam, it is recommended that you have the knowledge and skills necessary to design and implement Citrix Core Technologies and Architecture.

3.1 Recommended Knowledge

Knowledge of the following is recommended:

MetaFrame XP Server implementation and design
Microsoft IIS Web Server design
Basic SQL/MSDE database design
Multi-farm administration experience
Microsoft Management Console experience
Networking experience
Windows Active Directory experience
Microsoft Windows 2000 Server or Advanced Server design

3.2 Recommended Experience

It is recommended that candidates have the following experience:

Minimum of two years experience supporting enterprise administration, system design, and implementation
Designed, configured and managed a MetaFrame XP Server farm for at least two years
Maintained multiple server farms in separate domains for at least two years
Read and/or attended CTX-6100 ILT course

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4 Exam Sections and Weights

4.1 Sections of the Exam

The Citrix Core Technologies and Architecture Exam (610) is divided into thirteen (13) sections. Each section pertains to an item on the list of most important tasks as identified in a Job Task Analysis. The Job Task Analysis defines the role of an architect and identifies all the related knowledge, skills, and abilities of that role. The 13 sections are:

Server Based Computing
Terminal Services Architecture
Licensing Architecture
ICA Technology
Zone and Zone Data Collector Architecture
Data store and Local Host Cache Architecture
Load Management Architecture
Resource Manager Architecture
Installation Manager Architecture
Network Manager Architecture
Printing Architecture
Citrix ICA Client Architecture
Web Access Architecture

4.2 Weights of the Exam Sections

Subject matter experts determined the importance and frequency of the identified tasks in the scope of an architect's role. After the subject matter experts evaluated each section, each section was weighted based on the importance and frequency of the tasks. This weighting helped determine the number of questions that each section would contain. The following is the weight of each exam section. The total of all sections is 100%.

Server Based Computing	6%
Terminal Services Architecture	9%
Licensing Architecture	11%
ICA Technology	12%
Zone and Zone Data Collector Architecture	9%
Data store and Local Host Cache Architecture	13%
Load Management Architecture	10%
Resource Manager Architecture	6%
Installation Manager Architecture	3%
Network Manager Architecture	6%
Printing Architecture	5%
Client ICA Architecture	4%
Web Access Architecture	6%

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5 Exam Objectives and Resources for the Exam

The questions for the exam were produced directly from the exam objectives. The exam objectives were used to test the exam-taker's knowledge, skills and abilities related to each section of the exam. The exam is administered in a computer-based testing environment.

Some of the exam objectives will correspond, or map, to field experience. Exam-takers are expected to have at least two years of experience as an architect to increase the chances of passing this exam.

It is HIGHLY RECOMMENDED that exam-takers attend the Citrix course associated with the task/content objectives. Citrix courses are available at Citrix Authorized Learning Centers (CALCs). To locate the CALC nearest you, visit http://apps.citrix.com/calclisting/calc.asp.

For optimal performance on this exam, Citrix recommends that potential exam-takers attend the CTX-6100 course and obtain field experience.

5.1 Exam Objectives and Resources

For each exam objective, the charts below list the corresponding Citrix course(s), available technical publications, and other recommended study resources.

I. Server Based Computing

Given server based computing concepts and historical facts:

Identify and define the components of server based computing.
Identify factors that differentiate MetaFrame XP from other server based computing solutions.
Outline the benefits of server based computing.
Identify key facts about Citrix Terminal Services history.

Citrix Courses	Technical Publications	Other Resources
CTX-6100 Citrix Core Technologies and Architecture		At least two years experience supporting system design and implementation

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II. Terminal Services Architecture

Given background knowledge on Terminal Services:

Identify the difference between a Terminal Server and a MetaFrame XP Server.
List the elements of terminal services and describe the role of the multi-user kernel.
Identify how applications install and execute on a Terminal Server.
Outline the benefits of memory-based code sharing.
Identify the purpose of and differences between listener stacks idle sessions and session stacks.

Citrix Courses	Technical Publications	Other Resources
CTX-6100 Citrix Core Technologies and Architecture		At least two years experience supporting system design and implementation

III. Licensing Architecture

Given information on Terminal Services and MetaFrame XP licensing:

Define the purpose of the Terminal Service Client Access License and the related client device licensing process.
Outline the process that occurs for Terminal Services License server discovery.
Identify key design consideration based on Terminal Services and MetaFrame XP licensing.
Identify the license component for Terminal Services, as well as the related functions.

Citrix Courses	Technical Publications	Other Resources
CTX-6100 Citrix Core Technologies and Architecture		At least two years experience supporting system design and implementation

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IV. ICA Technology

Given information on MetaFrame XP architecture:

Describe the components of an ICA packet.
Outline the process for ICA data communication.
Describe the process for ICA data compression, bitmap disk caching and the queuing of the mouse and keystrokes.

Citrix Courses	Technical Publications	Other Resources
CTX-6100 Citrix Core Technologies and Architecture		At least two years experience supporting system design and implementation

V. Zone and Zone Data Collector Architecture

Given zone and zone data collector architectural information:

Identify the components of a MetaFrame XP server farm and the related functions of these components.
Define the IMA Service and describe the purpose of the IMA subsystems and communication processes.
Outline the different types of zone communication that occur in a MetaFrame XP server farm.
Describe the purpose of zones and identify the reasons for choosing single or multiple zones.

Citrix Courses	Technical Publications	Other Resources
CTX-6100 Citrix Core Technologies and Architecture		At least two years experience supporting system design and implementation

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VI. Data Store and Local Host Cache Architecture

Given data store database and local host cache architectural information:

Identify how the data store is updated.
Identify key design considerations based on data store database and local host cache architecture and communication.
Describe the purpose of a distributed data store and outline the communication process between data stores.
Identify the ways the local host cache is updated and outline related communication processes.

Citrix Courses	Technical Publications	Other Resources
CTX-6100 Citrix Core Technologies and Architecture		At least two years experience supporting system design and implementation

VII. Load Managed Architecture

Given architectural information on load management:

Identify the processes that occur to update rule values.
Identify key design considerations based on load management architecture.
Outline the processes that occur to load balance applications.
Identify the role of load-managed groups.

Citrix Courses	Technical Publications	Other Resources
CTX-6100 Citrix Core Technologies and Architecture		At least two years experience supporting system design and implementation

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VIII. Citrix Resource Manager Architecture

Given Citrix Resource Manager architecture information:

Identify the Citrix resource manager component and the related functions.
Outline the process that occurs for updating the Citrix resource manager metric.
Outline the process between the database connection server and the summary database.
Describe the purpose of a summary database purge schedule.

Citrix Courses	Technical Publications	Other Resources
CTX-6100 Citrix Core Technologies and Architecture		At least two years experience supporting system design and implementation

IX. Citrix Installation Manager Architecture

Given architectural information on Citrix Installation Manager:

Outline the communication process that occurs when an application is recorded.
Identify key design considerations based on Citrix Installation Manager architecture.
Outline the communication process that occurs when a package is deployed.
Identify the components of Citrix Installation Manager and related functions.

Citrix Courses	Technical Publications	Other Resources
CTX-6100 Citrix Core Technologies and Architecture		At least two years experience supporting system design and implementation

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X. Citrix Network Manager Architecture

Given an architectural overview of Citrix Network Manager:

Identify SNMP management components and related functions.
List the components of Citrix Network Manager and related functionalities.
Describe the purpose of Citrix MIB in Citrix Network Manager.

Citrix Courses	Technical Publications	Other Resources
CTX-6100 Citrix Core Technologies and Architecture		At least two years experience supporting system design and implementation

XI. Printing Architecture

Given architectural information on printing in MetaFrame XP:

List the components of Windows printing and MetaFrame XP Printing architecture.
Outline the process that occurs when printers are auto-created in an ICA session.
List the advantages and disadvantages for each type of client printer.
Identify key design considerations based on MetaFrame XP printing architecture.

Citrix Courses	Technical Publications	Other Resources
CTX-6100 Citrix Core Technologies and Architecture		At least two years experience supporting system design and implementation

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XII. ICA Client Architecture

Given ICA Client architectural information:

Identify the three Win32 ICA Clients and related functionalities.
Outline the communication process for application enumeration using the ICA Client.
Describe the components of Citrix Program Neighborhood.
List the components of an ICA file and the process that occurs when a client device receives an ICA file.
Identify key design considerations based on Citrix ICA Client architecture.

Citrix Courses	Technical Publications	Other Resources
CTX-6100 Citrix Core Technologies and Architecture		At least two years experience supporting system design and implementation

XIII. Web Access Architecture

Given an overview of the various application access methods and communications:

Identify the components of Citrix Secure Gateway architecture.
Describe the components of Citrix Enterprise Services for NFuse.
Compare the process that occurs when Network Address Translation is used and when Network Address Translation is not used.
Identify the components of Citrix NFuse Elite architecture.

Citrix Courses	Technical Publications	Other Resources
CTX-6100 Citrix Core Technologies and Architecture		At least two years experience supporting system design and implementation

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Appendix—Practice Items

1. Which statement best describes the shadow key?

A. A portion of the registry that is created when a user starts a session
B. An encryption key that is used when session shadowing is enabled between users
C. A portion of the registry from which data is copied when a user starts a session
D. A portion of the registry that is created when an application is initially installed and published on a MetaFrame server

Correct Answer: C

2. Which three database options are recommended for MetaFrame XP Presentation Server Enterprise Edition environments? (Choose three.)

A. Oracle
B. IBM DB2
C. Microsoft Access
D. Microsoft SQL Server

Correct Answer: A, B, D

3. Company ABC has implemented a pilot environment wherein evaluation copies of Citrix MetaFrame and a non-activated Terminal Services Licensing service were implemented. The pilot runs longer than originally anticipated. On day 91, what will happen to non-administrative users?

A. They will not be able to access the MetaFrame servers.
B. There is not enough information to address this question.
C. All users will be able to access the MetaFrame servers the same as on Day 90.
D. Only Windows 2000 and Windows XP devices will be able to access the MetaFrame servers the same as on Day 90.

Correct Answer: A

4. After creating and executing a new virtual driver, you notice that communication from the client is not coming from the virtual driver. You decide to troubleshoot the driver that is responsible for the communication from the ICA client to the server. What is being used?

A. Master Virtual Driver
B. WinStation Driver
C. Server Manager Driver
D. Device Driver

Correct Answer: B

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5. Which key networking component has the greatest impact on a multi-site farm design?

A. Firewall configuration
B. WAN architecture
C. NIC configuration
D. Switching configuration

Correct Answer: B

6. When designing MetaFrame XP farms, configuring data store connectivity in indirect mode can result in which of the following?

A. High availability
B. Improved scalability
C. Single point of failure
D. Multiple points of failure

Correct Answer: C

7. Company ABC has 15 applications in its server farm. For security reasons one application called APPG should only be accessed from inside of the corporate headquarters. How should the customer configure load management for their production environment?

A. Use the Advanced evaluator for all servers.
B. Use the Custom evaluator for all servers using IPRANGE.
C. Use the Custom evaluator for APPG and set an IP Range rule only allowing access for the headquarters' network in conjunction with another rule that returns a load level. Load manage APPG with this new evaluation
D. Use the Advanced evaluator for APPG and set an IP Range rule only allowing access for the headquarters' network. Load manage APPG with this new evaluator.

Correct Answer: C

8. Which SNMP message is sent by the Citrix SNMP Agent unsolicited, without a request from the Management Console?

A. GET
B. SEND
C. NEXT
D. TRAP

Correct Answer: D

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9. What is the name of the print monitor that Citrix adds to Windows 2000 Server?

A. CPMPROV.DLL
B. CPMMON.DLL
C. WIN32PNT.DLL
D. WIN32SPL.DLL

Correct Answer: B

10. The Program Neighborhood Agent uses configuration at start up supplied by which of the following?

A. An .XML file on the NFuse web server under Citrix\NFuse\NFuse17
B. An .XML file on the NFuse web server under Citrix\NFuse\Pnagent
C. An .INI file on the web server under \Program Files\Citrix\PNAgent
D. An .INI file in the user profile under \Application Data\PNagent\

Correct Answer: B

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