

Homework — Session 8

FusionAccess: The Architecture

Three tasks · about two hours of work

Name: _____ Date: _____

Due: before Session 9 starts — and Session 9 is the last one.

FusionAccess is **35% of the exam** across this session and the next, which is more than any other topic in the course and the one you have known about for the shortest time.

Task 3 is the one that decides whether today's session stuck. Nine acronyms are easy to recognize and very hard to place, and a blank page is the only honest way to tell those two apart.

Three tasks

1 Read — about 40 minutes

The **FusionAccess provisioning documentation** — how desktops are created, grouped and assigned to users. Session 9 starts exactly there, and it is 22% of the exam on its own. Read the component descriptions in Huawei's own words too; the wording in the exam comes from those pages.



Product docs FusionAccess documentation

The component descriptions are the source for everything in Block A. Read the roles of HDC, WI, ITA and HDA in Huawei's own words.

support.huawei.com → Cloud Computing → Fusion Access



The install order FusionAccess installation guide

Read the contents page on its own and the deployment sequence is right there, in order, for free.

support.huawei.com → FusionAccess → Installation



Watch it again Desktop cloud (VDI) concepts

Second time through, the provisioning part is the bit to pay attention to — full copy, linked clone, and pools. That is Session 9.

youtube.com → eEyaVR eMcul

2 Practice set — 25 questions

FusionAccess architecture, components, the login path, and deployment. **Closed book**, then mark yourself against the key. Every answer carries a written explanation — read the explanation even for the ones you got right, because on several of these the right answer for the wrong reason will not survive a rephrasing.

3 Label the architecture — 40 minutes

The full diagram from memory: **every component and every connection**. Then upload it with your marked question sheet as one PDF — use the **same mobile number you have on the class group** so your work is matched to you.



hciamirshetaia.com

Sent the wrong file? Just submit again — the newest one replaces the old.

TASK 2

25 questions — FusionAccess architecture and deployment

Closed book. Answer every question — there is no penalty for a wrong answer and there is no credit for a blank one.

1

SINGLE ANSWER

S8 · What VDI is

Your answer _____

In a desktop cloud, where does the user's Windows operating system actually run?

- ☐ A On the thin client on the desk
 - ☐ B As a virtual machine on a host in the data center
 - ☐ C On the WI server, one instance per user
 - ☐ D On the HDC, which streams it to the terminal
-

2

SINGLE ANSWER

S8 · Terminals

Your answer _____

What is the difference between a TC and an SC?

- ☐ A A TC is a dedicated thin client device; an SC is client software on an ordinary PC, laptop or phone
 - ☐ B A TC connects over HDP; an SC connects over a browser only
 - ☐ C A TC is for internal users; an SC is for external users
 - ☐ D A TC runs the desktop locally; an SC runs it in the data center
-

3

MULTIPLE ANSWERS

S8 · When VDI fits

Your answer _____

Which TWO scenarios are a good fit for a desktop cloud? (Choose two)

- ☐ A A 300-seat call center running the same three applications
 - ☐ B A design team doing heavy 3D modeling on laptops in the field
 - ☐ C A hospital where clinicians move between wards and need their session to follow them
 - ☐ D Field engineers who work for days with no network connection
 - ☐ E A site whose link to the data center is slow and drops several times a day
-

4

TRUE / FALSE

S8 · Security

Your answer _____

In a correctly deployed desktop cloud, a user's data files are stored on the terminal on their desk.

- ☐ A True
 - ☐ B False
-

5

SINGLE ANSWER

S8 · Components

Your answer _____

Which component holds the mapping between users and the desktops assigned to them?

- A WI
- B ITA
- C HDC
- D vAG

6

SINGLE ANSWER

S8 · Components

Your answer _____

An administrator needs to provision 200 new desktops and put them into a desktop group. Which portal do they use?

- A WI
- B ITA
- C The FusionCompute VRM console directly
- D The HDA on one of the desktops

7

DRAG AND DROP

S8 · Components

Your answer _____

Match each component to its one job.

HDA



vLB



License Server



The agent inside each desktop virtual machine / Spreads users across several WI servers / Checked when a user connects

8

FILL IN THE BLANK

S8 · Components

Your answer _____

The display protocol that carries the screen to the terminal and the keyboard and mouse back is called _____ .

9

MULTIPLE ANSWERS

S8 · Components

Your answer _____

Which TWO statements about the WI are correct? (Choose two)

- A It authenticates the user and shows them the desktops assigned to them
- B It carries the HDP session for the whole time the user is working
- C It sends the client a login file containing the desktop address and a login ticket
- D It stores the user-to-desktop mapping
- E It creates the desktop virtual machines

10

SINGLE ANSWER

S8 · Components

Your answer _____

Users inside the office connect to their desktops normally. Users at home cannot reach anything at all. Which component would you check first?

- A HDC
- B vAG
- C The License Server
- D AD

11

TRUE / FALSE

S8 · Components

Your answer _____

A desktop virtual machine built from a master image that does not contain the HDA will still appear in ITA and can still be connected to.

- A True
- B False

12

SINGLE ANSWER

S8 · Components

Your answer _____

Which of these is NOT a FusionAccess component?

- A HDC
- B ITA
- C Active Directory
- D WI

13

SINGLE ANSWER

S8 · Components

Your answer _____

Why must DNS be working before FusionAccess is installed?

- A Because the desktops get their IP addresses from it
 - B Because the components find each other by name, and HDC in particular must be resolvable
 - C Because it stores the user-to-desktop mapping
 - D Because HDP cannot be encrypted without it
-

14

MULTIPLE ANSWERS

S8 · Components

Your answer _____

The ITA server is down for an hour. Which TWO statements are true? (Choose two)

- A Users already working are unaffected
 - B All desktop sessions are disconnected immediately
 - C No new desktops can be provisioned until it is back
 - D Users cannot log in at all
 - E The desktops lose access to their disks
-

15

SINGLE ANSWER

S8 · Login path

Your answer _____

A user has just typed their username and password into the WI. What happens next?

- A The client immediately opens an HDP session to the WI
 - B The credentials are checked against AD, and HDC is asked which desktops belong to that user
 - C ITA creates a new desktop for the user
 - D The license server assigns a desktop from the pool
-

16

TRUE / FALSE

S8 · Login path

Your answer _____

For an internal user, the HDP session runs directly between the client and the desktop virtual machine's HDA.

- A True
 - B False
-

17

SINGLE ANSWER

S8 · Login path

Your answer _____

A user logs in at 9 a.m. and waits nearly a minute before the desktop appears. On every later login that day it is instant. What is the most likely explanation?

- A The license server is slow to respond
- B The desktop was powered off, and HDC had FusionCompute start it before the session could open
- C vLB was choosing between WI servers
- D DNS resolution failed and then retried

18

FILL IN THE BLANK

S8 · Login path

Your answer _____

An external user is never given the desktop's real IP address. The client is handed an address _____ instead, which vAG resolves with the HDC.

19

MULTIPLE ANSWERS

S8 · Login path

Your answer _____

Which TWO of these does the HDA do when a connection request arrives? (Choose two)

- A Verify the login ticket the client is carrying
- B Authenticate the user against Active Directory itself
- C Check that a license is available for the session
- D Assign the user a desktop from the pool
- E Load-balance the request across the other desktops

20

DRAG AND DROP

S8 · Deployment order

Your answer _____

Put these three deployment stages in order by matching each to its position.

Install AD, DNS and DHCP



Install ITA, HDC, WI and the license server



Build the desktop master image with HDA



First of the three / Second of the three / Third of the three

21

SINGLE ANSWER

S8 · Deployment order

Your answer _____

Which of these must be in place before the FusionAccess components can be installed at all?

- A The desktop groups and user assignments
 - B A working FusionCompute, because the components are themselves virtual machines
 - C vAG and vLB
 - D The HDP policy for each user group
-

22

SINGLE ANSWER

S8 · Sizing

Your answer _____

A host has 32 physical cores and 512 GB of memory. Office desktops are specified at 2 vCPU and 4 GB each, CPU is overcommitted at 1:5, and about 12% of memory is reserved for the hypervisor. How many desktops does the host support?

- A 160
 - B 112
 - C 80
 - D 256
-

23

TRUE / FALSE

S8 · Sizing

Your answer _____

A five-host cluster sized at 80 desktops per host should be planned to carry 400 desktops.

- A True
 - B False
-

24

MULTIPLE ANSWERS

S8 · Network planning

Your answer _____

Which TWO of these are separate network planes in a FusionAccess deployment? (Choose two)

- A The management plane, carrying VRM, CNA and the FusionAccess components
 - B The HDP or service plane, carrying the desktops' traffic and the users' screens
 - C The license plane
 - D The Active Directory plane
 - E The snapshot plane
-

A branch office of 40 users reports that typing feels laggy, although a bandwidth test shows the link is barely half used. What is the most likely cause?

- A** Insufficient bandwidth — the test is wrong
 - B** Round-trip latency on the link, which no amount of extra bandwidth will fix
 - C** The desktops are undersized on memory
 - D** The license server is throttling them
-

TASK 3

Label the architecture from memory

Closed book, in the box below. Draw the boxes, then draw the lines, then label both. Tick each item only once it is on the page **and named**. The lines are worth more than the boxes — a diagram with every component in it and the HDP arrow drawn through the WI is still a wrong diagram.

- | | |
|--|---|
| ☐ A user with a TC, and a second user at home | ☐ The license server |
| ☐ WI, with vLB in front of it | ☐ AD, DNS and DHCP, in a box of their own |
| ☐ vAG on the path the external user takes | ☐ Two desktop VMs on a CNA host, each with HDA |
| ☐ HDC, and the database behind it | ☐ The arrow that carries HDP, both internal and external |
| ☐ ITA, and its line down to FusionCompute VRM | ☐ A label on the line that carries authentication |

Grade yourself

Do not open this section until you have answered all 25.

Marking as you go feels productive and teaches you nothing. The exam will not let you check question 7 before you answer question 8.

1	B — As a virtual machine on a host in the data center	The desktop is an ordinary virtual machine on a FusionCompute host; only the compressed picture of its screen travels to the terminal, and only keystrokes and mouse movement travel back. The thin client runs nothing but the HDP client. WI is a login page and HDC is a controller — neither of them runs anybody's desktop.
2	A — A TC is a dedicated thin client device; an SC is client software on an ordinary PC, laptop or phone	Same protocol, same desktop, same login path — the only difference is the object on the desk. A thin client is a small purpose-built box with nothing worth stealing on it; a soft client is the FusionAccess application installed on hardware the user already owns. Internal against external is decided by whether the session goes through vAG, not by the terminal type.
3	A, C — A 300-seat call center running the same three applications / A hospital where clinicians move between wards and need their session to follow them	Many similar users with standard software is the classic case, and so is a roaming user who needs to pick up the same session at a different screen. The three wrong answers are the three standard disqualifiers: heavy graphics, working offline, and a bad network. A virtual desktop with no network is not a slow desktop — it is no desktop.
4	B — False	False, and this is the security argument that sells most VDI projects. The disks belong to the virtual machine in the data center; the terminal holds nothing but the client. A stolen thin client is a stolen screen, not stolen data — which is also why USB redirection is switched off at high-security sites, because that is the one path that would let data leave.
5	C — HDC	HDC is the core of FusionAccess: it owns the user-to-desktop mapping (kept in its GaussDB database), assigns a machine from a pool when somebody logs in, checks the machine is running, and issues the ticket the client connects with. WI only displays the list HDC gives it, ITA is the administrator's portal, and vAG is a gateway.
6	B — ITA	ITA is the administrator's portal: provisioning, desktop groups, alarms and maintenance all live there, and ITA is what calls FusionCompute VRM to build the machines. Doing it in VRM directly would create virtual machines that FusionAccess knows nothing about — they would never be assigned to anybody. WI is the user's page, not the administrator's.

7	HDA → the agent inside the desktop · vLB → spreads users across WIs · License Server → checked at connection time	HDA is software installed in the guest, and it is what registers the machine with HDC and terminates the HDP session. vLB is pure traffic distribution in front of the WI servers — it runs no desktop logic at all. The license is checked when somebody connects, not when a machine is built, which is why a licensing outage shows up as users failing to log in rather than as provisioning failing.
8	HDP (Huawei Desktop Protocol)	HDP is the protocol on the wire. HDA is the agent at the far end of it, inside the desktop virtual machine — one letter apart and not the same kind of thing at all. HDP also carries sound, printing and redirected USB devices, and its behavior (compression, what is redirected) is set by policy on the HDC rather than per desk.
9	A, C — It authenticates the user and shows them the desktops assigned to them / It sends the client a login file containing the desktop address and a login ticket	WI is the front door and nothing more: it takes the credentials, has them checked, displays the list, and hands over a login file. Then it is finished — the HDP session runs directly between the client and the desktop's HDA. The mapping belongs to HDC and its database, and creating machines is ITA talking to FusionCompute.
10	B — vAG	The internal users prove that HDC, AD, the license server and the desktops are all healthy, because those are the same components an internal login uses. The one piece that only external users depend on is vAG, the gateway between the outside world and the desktop network. Work backwards from who is unaffected, not only from who is complaining.
11	B — False	False, and this is a real project-week-loser. The machine builds, powers on and shows up perfectly in ITA — but with no HDA it never registers with HDC and there is nothing at the far end of HDP, so nobody can connect. The fix belongs in the template, not in the desktops, or you will make the same mistake a thousand times in one afternoon.
12	C — Active Directory	AD is a Microsoft service that FusionAccess depends on, not a part of it — and the same is true of DNS and DHCP. FusionAccess keeps no user list of its own: it asks the domain. The distinction matters because the exam asks both "which components make up FusionAccess" and "which services must exist before you install it", and the answers are different lists.
13	B — Because the components find each other by name, and HDC in particular must be resolvable	FusionAccess is a set of virtual machines that talk to each other by name — and the address a user types for the WI is a name too. HDC especially has to be resolvable, because that is how each desktop's HDA finds the controller to register with. Addresses come from DHCP, the mapping lives in HDC's database, and encryption is vAG's job.

14	A, C — Users already working are unaffected / No new desktops can be provisioned until it is back	ITA is the administrator's portal, so an ITA outage is an administrator's problem: no provisioning, no desktop-group changes, no maintenance from the portal. Users are entirely unaffected, whether they are already working or logging in fresh, because the login path runs through WI and HDC. Nothing in ITA sits on the data path.
15	B — The credentials are checked against AD, and HDC is asked which desktops belong to that user	Authentication happens against the domain, because FusionAccess has no user list of its own; then HDC — which owns the mapping — says which desktops that user is entitled to. ITA builds machines in advance, not per login. The license server counts connections; it does not assign anything. And HDP does not run to the WI at any point.
16	A — True	True. Once WI has handed over the login file, the screen traffic goes straight from the client to the HDA inside the desktop — WI is the receptionist, not the corridor. An external user's session goes through vAG instead, which is the one case where something sits in the middle. This is why restarting WI in the middle of the day disturbs nobody who is already working.
17	B — The desktop was powered off, and HDC had FusionCompute start it before the session could open	HDC checks that the assigned machine is actually running, and starts it through FusionCompute if it is not. A cold Windows boot is where that minute goes, and once the machine is up the second login of the day skips it entirely. It is also why a thousand users arriving at nine is a storage problem: they are all booting at once.
18	ticket	The address ticket is what keeps internal addressing invisible from the outside. The external client sends its connection request to vAG carrying the ticket; vAG does not know which machine that is either, so it asks HDC, gets the real address back, and forwards the request to that desktop's HDA. The login ticket, which HDA then verifies, is a separate thing with a limited lifetime.
19	A, C — Verify the login ticket the client is carrying / Check that a license is available for the session	HDA is the gatekeeper at the far end: it checks that the ticket is genuine and that the session is licensed before letting anybody onto the machine. Authentication against the domain happened at the front door, assignment is HDC's job, and nothing about a desktop virtual machine load-balances anything — a desktop belongs to one user at a time.
20	AD, DNS, DHCP first · then ITA, HDC, WI and the license · then the master image	The domain and name resolution go in first because the FusionAccess installer registers names and joins the domain as it runs. The core components come next, on the FusionCompute that was built before any of this. The master image is last of the three, because it is built on a finished system — and only after it does provisioning make any sense at all.

21	B — A working FusionCompute, because the components are themselves virtual machines	Every FusionAccess component — ITA, HDC, WI, the database, the license server — runs as a virtual machine, so there has to be somewhere to run them. That is why Sessions 4 to 7 come before this one. vAG and vLB are optional and installed after the core; desktop groups and policies are configuration done on the finished system.
22	C — 80	Work out both limits and take the smaller. Memory: 512 GB less about 12% is roughly 450 GB, and $450 \div 4 = 112$ desktops. CPU: 32 cores at 1:5 gives 160 vCPU, and $160 \div 2 = 80$ desktops. CPU runs out first, so 80 is the answer. 112 is the memory limit offered as a trap, and 160 is the vCPU count rather than a desktop count.
23	B — False	False. Plan for four hosts' worth — 320 — so that when one host fails HA has somewhere to restart its desktops. A cluster planned to be full is a cluster where HA is decoration, which is exactly the point made in Session 7: spare capacity is not waste, it is what makes HA a plan rather than a hope.
24	A, B — The management plane, carrying VRM, CNA and the FusionAccess components / The HDP or service plane, carrying the desktops' traffic and the users' screens	The planes are management, storage, service or HDP, and — where vAG is deployed — external access. The last three options do not exist: licensing and directory lookups are ordinary traffic on the management plane, and snapshots are a storage operation rather than a network. Separating the real planes matters because a 9 a.m. boot storm on storage must not drown the management heartbeat.
25	B — Round-trip latency on the link, which no amount of extra bandwidth will fix	Latency and bandwidth are different problems and only one of them can be bought away. A long round trip means every keystroke echoes back late, and the session feels wrong even on an empty link. The answers are to tune the HDP policy on HDC for that group, or to put the desktops closer to the users. Undersized memory would show as slowness inside the desktop, not as lag on typing.

Score yourself — 25 questions

21 – 25 Solid. Go straight into the Session 9 pre-reading; you are ready for it.

15 – 20 The usual result after one session on nine new acronyms. Redo task 3 from a blank page before next week.

Below 15 Work through the component list on the next page until you can say each role in one sentence, then re-sit these questions. Bring the sheet to Session 9.

The three that everybody gets wrong at first: WI is the login page and ITA is the admin portal, not the other way round; HDP does **not** pass through the WI once the session is up; and AD, DNS and DHCP are prerequisites rather than parts of FusionAccess. If you missed any of those three, they are worth more of your revision time than the other twenty-two questions put together.

TASK 3 KEY

Every component, and what it is for

Check this only after you have drawn yours. You get the mark for a component if it is on the page, named, and in the right layer. Tick off anything you missed and write the one-line role next to it.

TC / SC	The terminal on the desk. TC is a dedicated thin client; SC is the FusionAccess client software on an ordinary PC, laptop or phone.
WI	The web page the user logs in to. Takes the username and password, shows the desktops that belong to that user, hands the client a login file — and is then out of the path.
vLB	Spreads users across several WI servers so that everybody can be given one name and one address. It only forwards; it runs no desktop logic of its own.
vAG	The single controlled door in from outside. Encrypts the HDP session, hides the desktop's real address behind an address ticket, and asks HDC what that ticket means.
HDC	The core. Holds the mapping between users and desktops, assigns a machine from a pool, makes sure it is running, issues the login ticket, and carries the HDP policy.
ITA	The administrator's portal — provisioning, desktop groups, alarms, maintenance. It is also what talks to FusionCompute VRM to create the virtual machines.
GaussDB	The database behind HDC, holding the user-to-desktop mapping and the state of every machine.
License Server	Checked when a user connects, not when a machine is built. Usually deployed separately so several FusionAccess systems can share it.
AD	Active Directory: every user account, and the domain the desktops join. Not part of FusionAccess — a prerequisite for it.
DNS	Name resolution. Components find each other by name, HDC in particular must be resolvable, and the address users type for the WI is a name.
DHCP	Hands out addresses to desktop virtual machines, which are created in bulk and are disposable.
HDA	The agent inside every desktop virtual machine. Registers the machine with HDC, verifies the login ticket and the license, and is the far end of HDP.
FusionCompute	VRM and the CNA hosts underneath all of it. Every FusionAccess component is itself a virtual machine running here.

TASK 3 KEY

And every connection

This is the half that separates a diagram from a list of boxes. Mark each line you drew, and each one you did not.

TC / SC → vLB → WI	The login. The user reaches the WI through the load balancer, if there is one.
WI → AD	Authentication. FusionAccess keeps no user list of its own.
WI ↔ HDC	The desktop list, the assignment, and the tickets that go back to the client.
HDC ↔ GaussDB	Where the user-to-desktop mapping and the machine states actually live.
ITA → FusionCompute VRM	Building, cloning and powering the desktop virtual machines.
ITA → HDC	Registering the desktops that have just been provisioned, and the groups they belong to.
HDA → HDC	Every desktop registers itself and reports its state. A machine with no HDA never appears as connectable.
Client → HDA (HDP)	The screen. Direct from an internal client, and through vAG from an external one. It does NOT pass through WI.
External client → vAG → HDA	The outside path, encrypted, with vAG resolving the address ticket with HDC first.
HDA → License Server	The license check that happens at connection time, via HDC.

The line that decides the mark: the HDP arrow. It runs from the client straight to the HDA inside the desktop virtual machine — and through vAG, and only vAG, for an external user. It never passes through the WI. If your arrow goes through the WI, you have drawn the login path and the screen path as one thing, and the exam asks about exactly that confusion.