Batch: C3 Roll No.: 16010121221
Experiment / assignment / tutorial No.___1____
Grade: AA / AB / BB / BC / CC / CD /DD
Signature of the Staff In-charge with date

Experiment No: 1

Title: Study of Cloud Computing & Architecture

Aim and Objective of the Experiment:

To study cloud computing architecture
To explore any 5 Desktop-as- a-Service

COs to be achieved:

CO1: Comprehend the issues related to cloud computing and its application

Theory: Cloud Computing provides us means of accessing the applications as utilities over the Internet. It allows us to create, configure, and customize the applications online.
The term Cloud refers to a Network or Internet.
Cloud models

- Deployment models
- Service models

Deployment models:
The cloud deployment model identifies the specific type of cloud environment based on ownership, scale, and access, as well as the cloud's nature and purpose.

- Public
- Private
- Hybrid
- Community cloud

Service models

- Infrastructure as a Service (IaaS)
- Platform as a Service (PaaS)
- Software as a Service (SaaS)
- Desktop as a Service(DaaS)

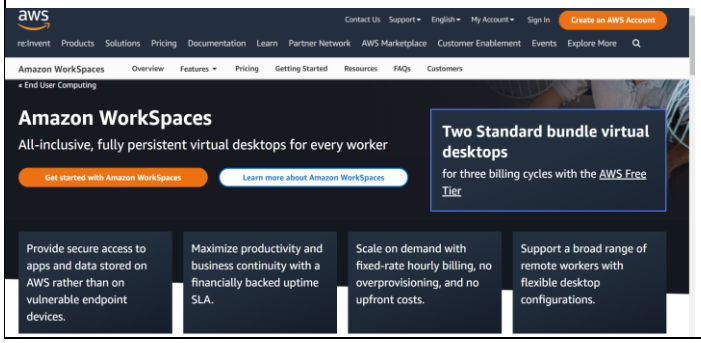
Desktop as a service

Desktop as a Service (DaaS) is a cloud computing offering where a service provider delivers virtual desktops to end users over the Internet, licensed with a per-user subscription. The provider takes care of backend management for small businesses that find creating their own virtual desktop infrastructure to be too expensive or resource-consuming. This management typically includes maintenance, backup, updates, and data storage.

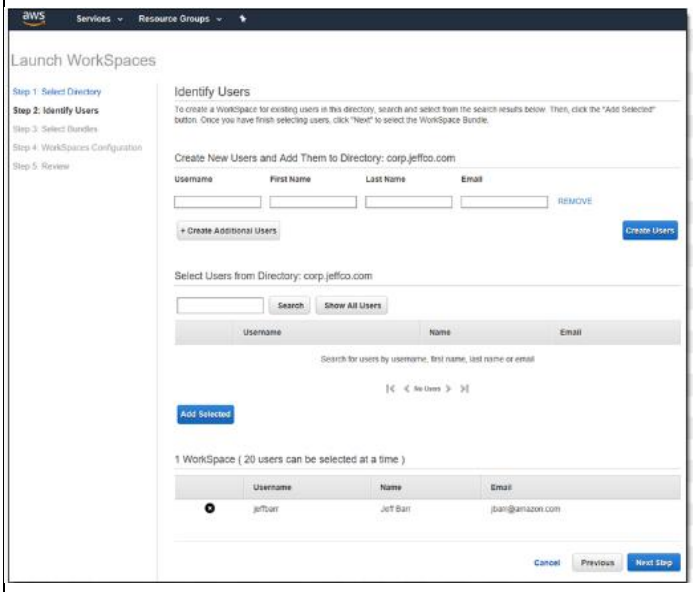
Cloud service providers may also handle security and applications for the desktop, or users may manage these service aspects individually.

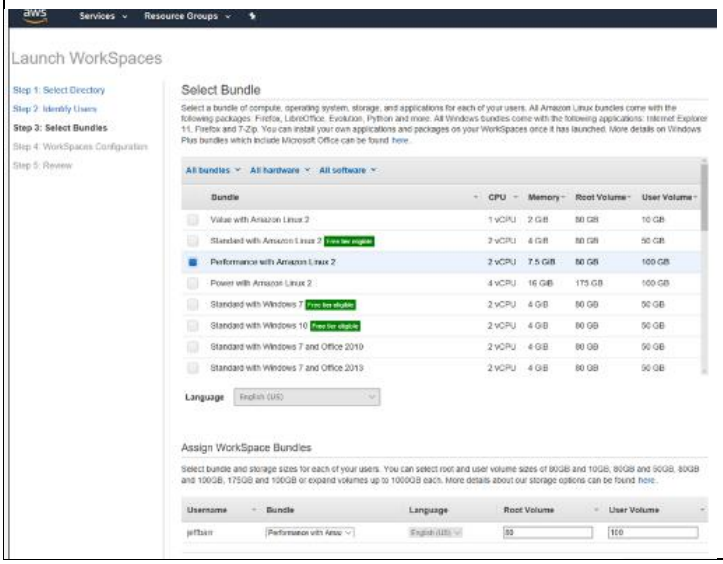
TASK: (paste the screenshots)

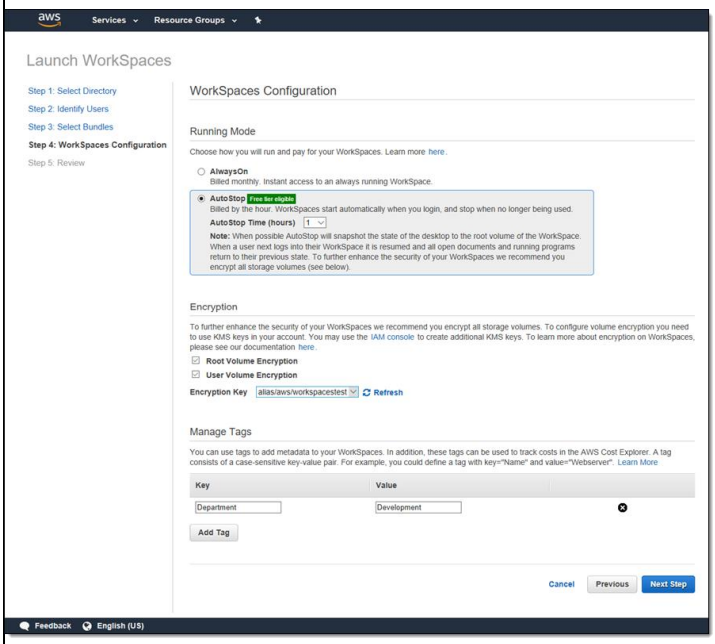
1) Amazon Workspace:

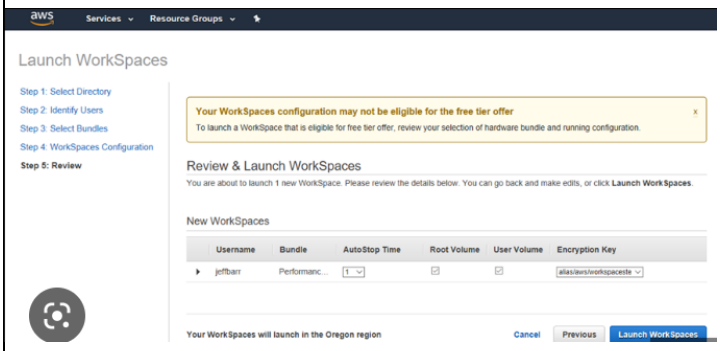


Amazon WorkSpaces
https://clients.amazonworkspaces.com/webclient#/registration
amazonWorkSpaces
To get started enter your registration code provided in your welcome email.
Register

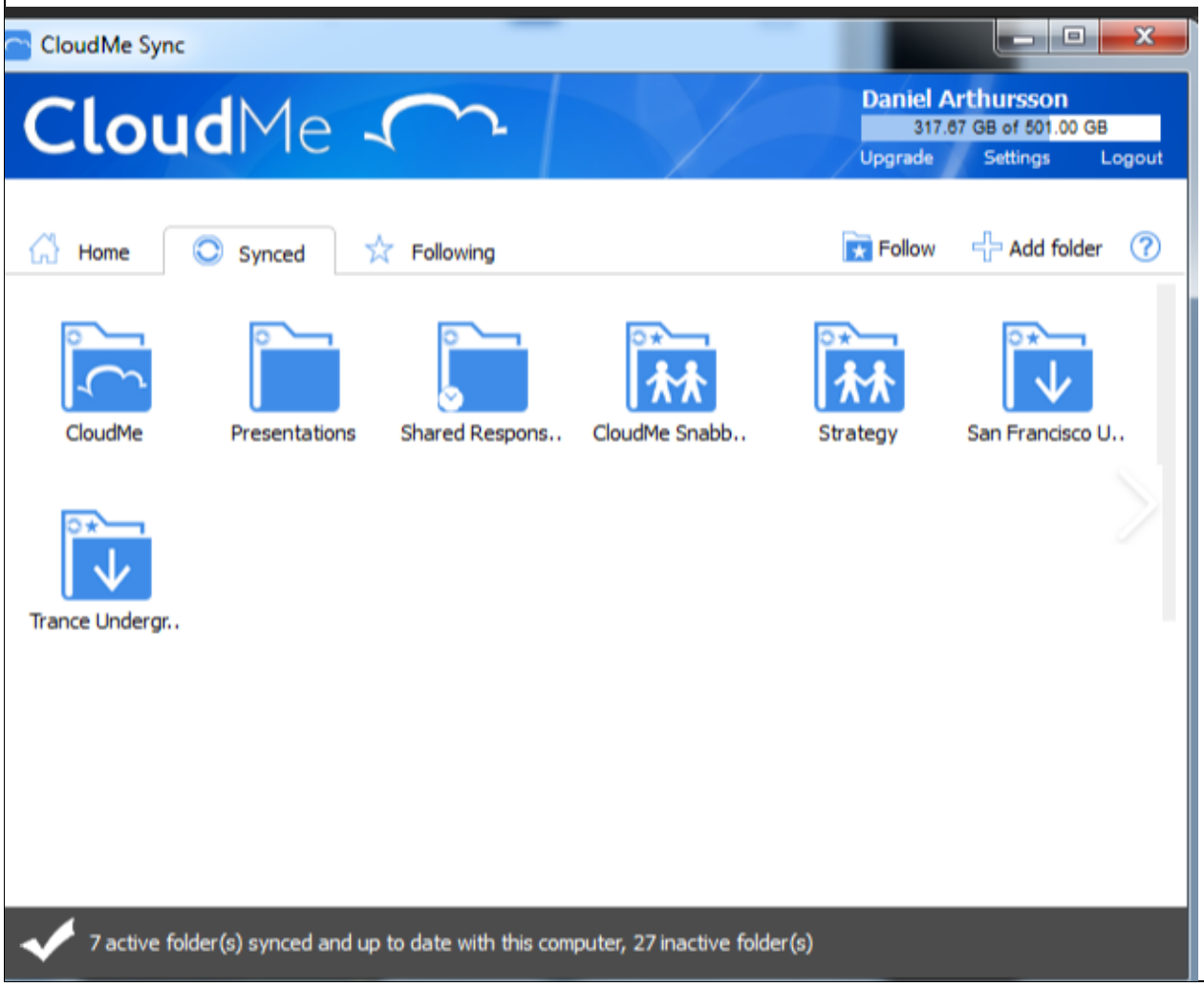

Services
Resource Groups
Launch WorkSpaces
Step 1: Select Directory
Step 2: Identify Users
Step 3: Select Bundles
Step 4: WorkSpaces Configuration
Step 5: Review
Identify Users
Create New Users and Add Them to Directory: corp.jeffco.com
Username
First Name
Last Name
Email
REMOVE
+ Create Additional Users
Create Users
Select Users from Directory: corp.jeffco.com
Search
Show All Users
Name
Add Selected
1 WorkSpace (20 users can be selected at a time)
Cancel
Previous
Next Step

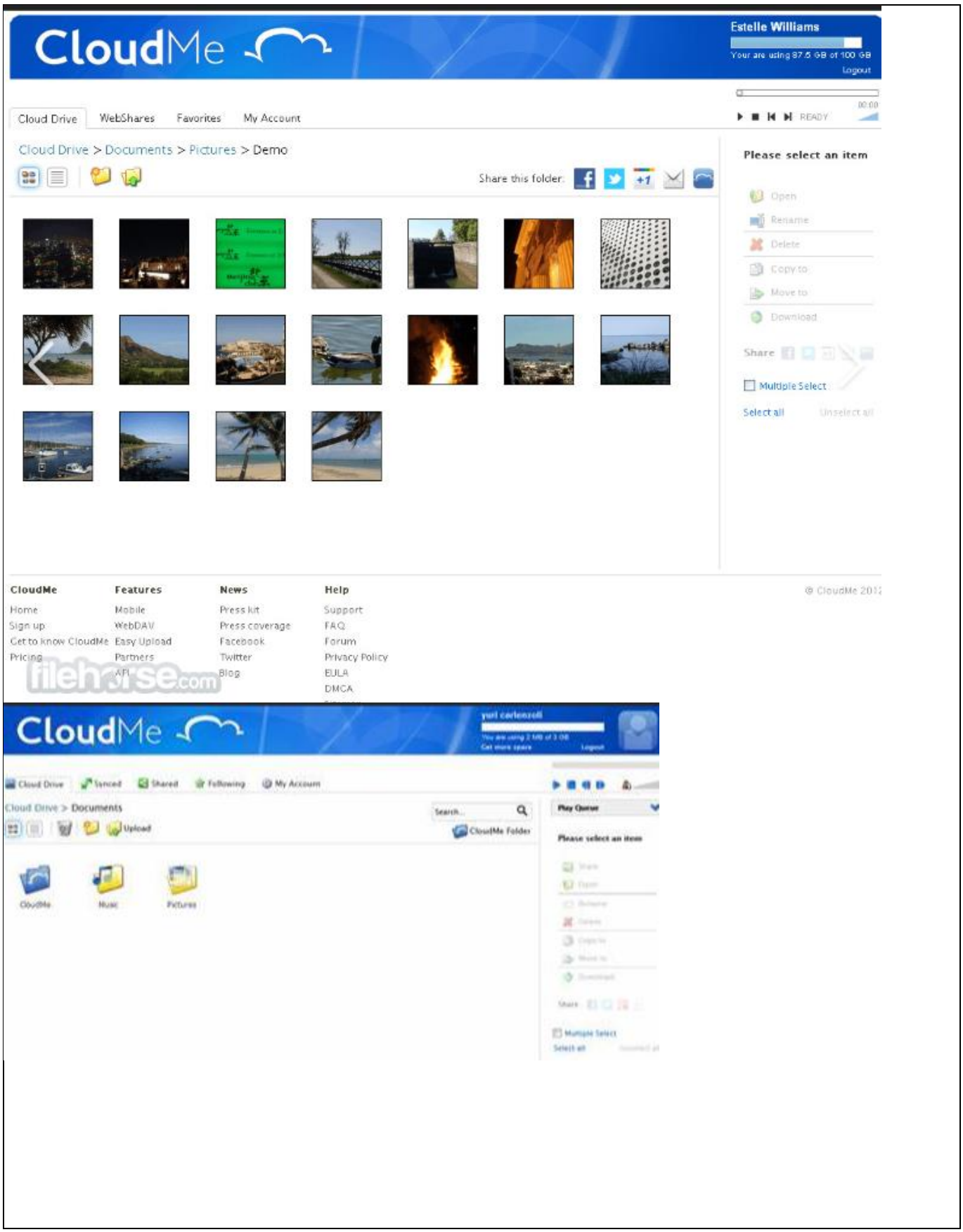

Services
Resource Groups
Launch WorkSpaces
Step 1: Select Directory
Step 2: Identify Users
Step 3: Select Bundles
Step 4: WorkSpaces Configuration
Step 5: Review
Select Bundle
All bundles
All hardware
All software
Bundle
CPU
Memory
Root Volume
User Volume
Value with Amazon Linux 2
Standard with Amazon Linux 2
Performance with Amazon Linux 2
Power with Amazon Linux 2
Standard with Windows 7
Standard with Windows 10
Standard with Windows 7 and Office 2010
Standard with Windows 7 and Office 2013
Language
Assign WorkSpace Bundles
Username
Bundle
Language
Root Volume
User Volume


aws
Services
Resource Groups
Launch WorkSpaces
Step 1: Select Directory
Step 2: Identify Users
Step 3: Select Bundles
Step 4: WorkSpaces Configuration
Step 5: Review
WorkSpaces Configuration
Running Mode
Choose how you will run and pay for your WorkSpaces. Learn more here.
AlwaysOn
Billed monthly. Instant access to an always running WorkSpace.
AutoStop Free tier eligible
Billed by the hour. WorkSpaces start automatically when you login, and stop when no longer being used.
AutoStop Time (hours) 1
Note: When possible AutoStop will snapshot the state of the desktop to the root volume of the WorkSpace. When a user next logs into their WorkSpace it is resumed and all open documents and running programs return to their previous state. To further enhance the security of your WorkSpaces we recommend you encrypt all storage volumes (see below).
Encryption
To further enhance the security of your WorkSpaces we recommend you encrypt all storage volumes. To configure volume encryption you need to use KMS keys in your account. You may use the IAM console to create additional KMS keys. To learn more about encryption on WorkSpaces, please see our documentation here.
Root Volume Encryption
User Volume Encryption
Encryption Key alias/aws/workspacestest Refresh
Manage Tags
You can use tags to add metadata to your WorkSpaces. In addition, these tags can be used to track costs in the AWS Cost Explorer. A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key="Name" and value="Webserver". Learn More
Key
Value
Department
Development
Add Tag
Cancel
Previous
Next Step
Feedback
English (US)

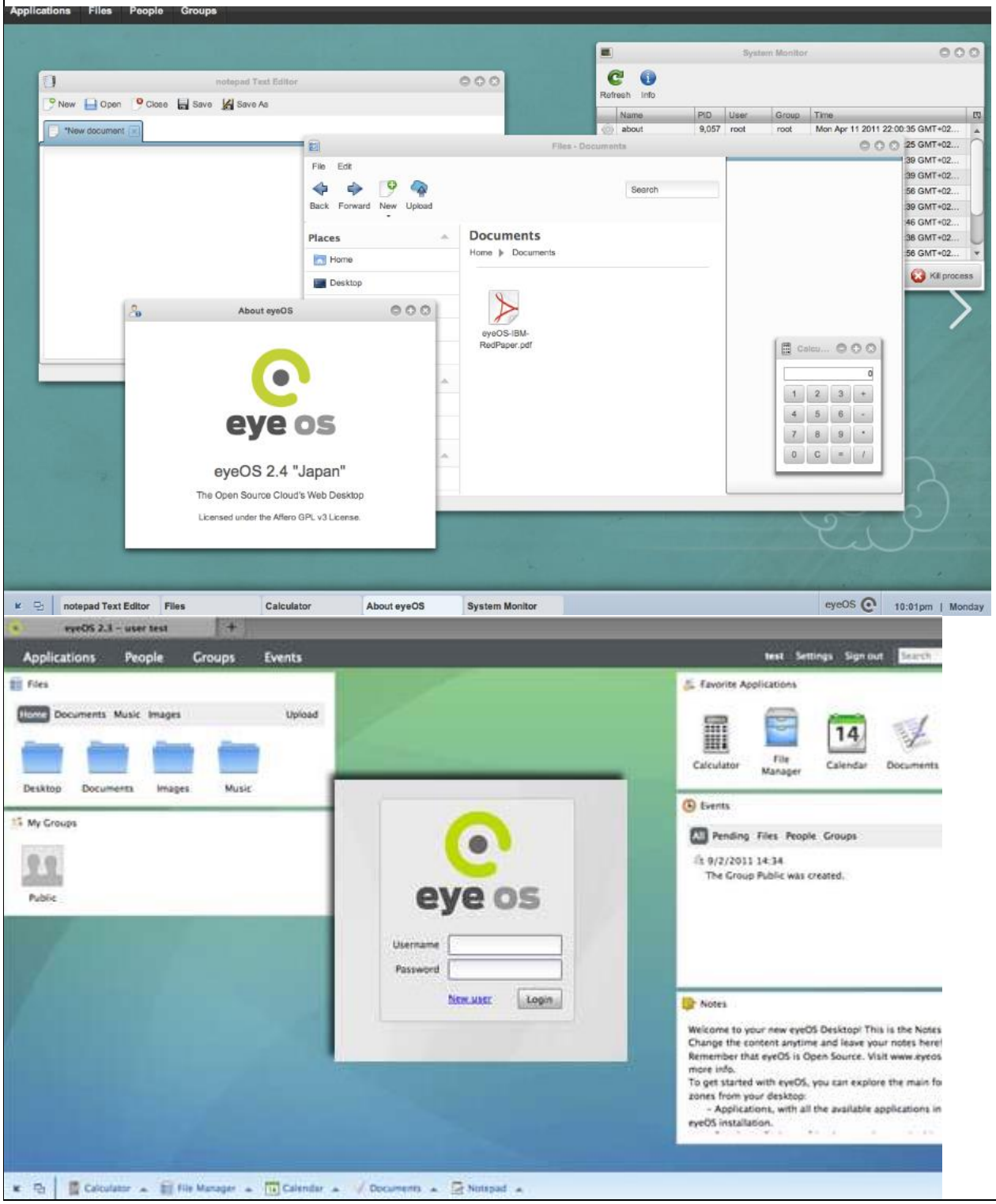

aws
Services
Resource Groups
Launch WorkSpaces
Step 1: Select Directory
Step 2: Identify Users
Step 3: Select Bundles
Step 4: WorkSpaces Configuration
Step 5: Review
Your WorkSpaces configuration may not be eligible for the free tier offer
To launch a WorkSpace that is eligible for free tier offer, review your selection of hardware bundle and running configuration.
Review & Launch WorkSpaces
You are about to launch 1 new WorkSpace. Please review the details below. You can go back and make edits, or click Launch WorkSpaces.
New WorkSpaces
Username
Bundle
AutoStop Time
Root Volume
User Volume
Encryption Key
jeffbarr
Performanc...
1
alias/aws/workspacestе
Your WorkSpaces will launch in the Oregon region
Cancel
Previous
Launch WorkSpaces

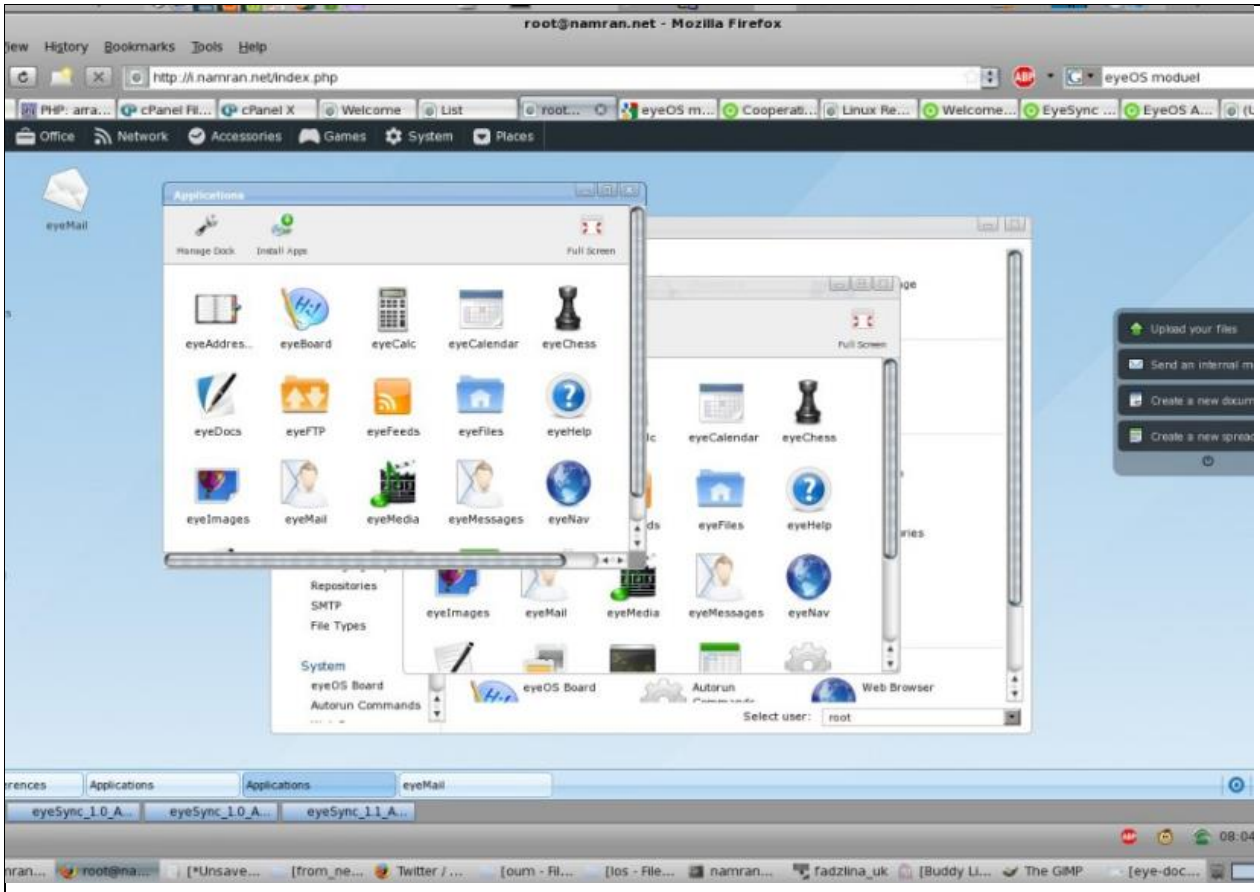
2) CloudMe.en:


CloudMe Sync
CloudMe
Daniel Arthursson
317.67 GB of 501.00 GB
Upgrade
Settings
Logout
Home
Synced
Following
Follow
Add folder
CloudMe
Presentations
Shared Respons..
CloudMe Snabb..
Strategy
San Francisco U..
Trance Undergr..
7 active folder(s) synced and up to date with this computer, 27 inactive folder(s)

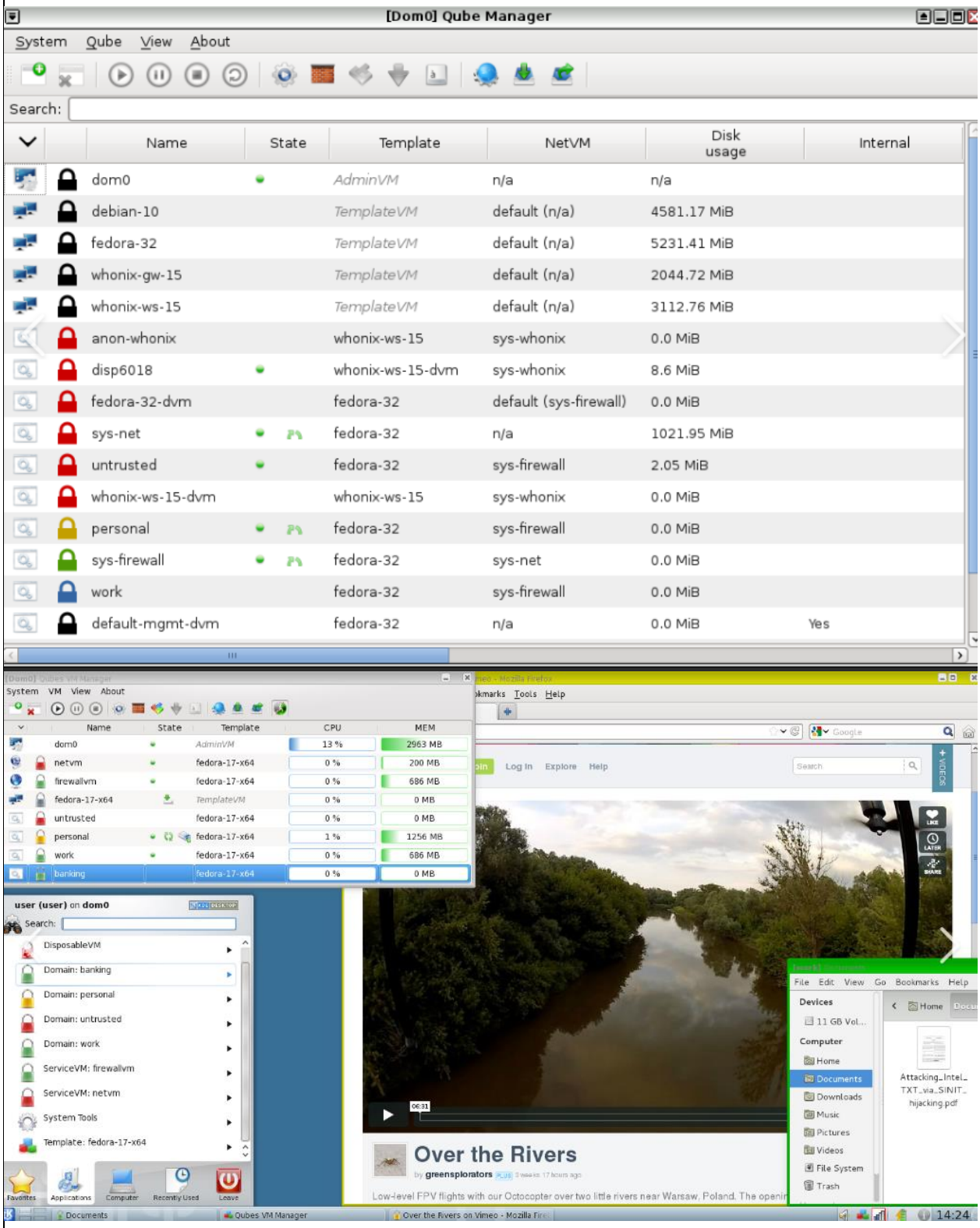

CloudMe
Estelle Williams
Your are using 87.5 GB of 100 GB
Logout
Cloud Drive
WebShares
Favorites
My Account
Cloud Drive > Documents > Pictures > Demo
Share this folder:
Please select an item
Open
Rename
Delete
Copy to
Move to
Download
Share
Multiple Select
Select all
CloudMe
Home
Sign up
Get to know CloudMe
Pricing
Features
Mobile
WebDAV
Easy Upload
Partners
API
News
Press kit
Press coverage
Facebook
Twitter
Blog
Help
Support
FAQ
Forum
Privacy Policy
EULA
DMCA
filehorse.com
CloudMe
Cloud Drive
Synced
Shared
Following
My Account
Cloud Drive > Documents
Upload
CloudMe Folder
Please select an item
Music
Pictures

3) eyeos.com


Applications
Files
People
Groups
notepad Text Editor
New
Open
Close
Save
Save As
*New document
System Monitor
Refresh
Info
Name
PID
User
Group
Time
about
9,057
root
root
Mon Apr 11 2011 22:00:35 GMT+02...
Files - Documents
File
Edit
Back
Forward
New
Upload
Search
Places
Home
Desktop
Documents
Home ▸ Documents
eyeOS-IBM-RedPaper.pdf
Kill process
About eyeOS
eye os
eyeOS 2.4 "Japan"
The Open Source Cloud's Web Desktop
Licensed under the Affero GPL v3 License.
Calculator
notepad Text Editor
Files
Calculator
About eyeOS
System Monitor
eyeOS
10:01pm | Monday
eyeOS 2.3 – user test
Applications
People
Groups
Events
test
Settings
Sign out
Search
Files
Home
Documents
Music
Images
Upload
Desktop
Documents
Images
Music
My Groups
Public
Favorite Applications
Calculator
File Manager
Calendar
Documents
Events
All
Pending
Files
People
Groups
9/2/2011 14:34
The Group Public was created.
Notes
Welcome to your new eyeOS Desktop! This is the Notes
Change the content anytime and leave your notes here!
Remember that eyeOS is Open Source. Visit www.eyeos
more info.
To get started with eyeOS, you can explore the main fo
zones from your desktop:
- Applications, with all the available applications in
eyeOS installation.
eye os
Username
Password
New user
Login
Calculator
File Manager
Calendar
Documents
Notepad


root@namran.net - Mozilla Firefox
History
Bookmarks
Tools
Help
Office
Network
Accessories
Games
System
Places
eyeMail
eyeAddres...
eyeBoard
eyeCalc
eyeCalendar
eyeChess
eyeDocs
eyeFTP
eyeFeeds
eyeFiles
eyeHelp
eyeImages
eyeMail
eyeMedia
eyeMessages
eyeNav
Repositories
SMTP
File Types
System
eyeOS Board
Autorun Commands
Web Browser
Select user:
root
Upload your files
Applications
eyeSync_1.0_A...
eyeSync_1.1_A...

4)qubes-os.org:



Studying various file service storage providers that offer cloud storage, file ronization and client software.

DaaS vendor comparison

PROVIDER	GUEST OSES	DESKTOP DELIVERY	STARTING PRICE	FREE TIER OR TRIAL	SUPPORT
Amazon WorkSpaces	Windows and Linux	Single-session and multi-session	$7.25/month+ $0.17/hour	Free tier for 3 months	Multiple support tiers through AWS
Azure Virtual Desktop	Windows	Single-session and multi-session	Free to eligible customers; $10/month for eligible external customers	Free if using the $200 credit within 30 days of signing up for Azure	Multiple support tiers through Azure
Citrix DaaS	Windows and Linux	Single-session and multi-session	$10/month	7-day free trial	Multiple support tiers through Citrix
DinCloud Hosted Workspaces	Windows	Single-session and multi-session	Contact vendor	14-day free trial	24/7 support
Nutanix Frame	Windows and Linux	Single-session and multi-session	$24/month	12-hour test drive or 30-day free trial after sign-up	Multiple support tiers through Nutanix
V2 Cloud	Windows	Single-session and multi-session	$40/month	7-day free trial	Phone and chat support
VMware Horizon Cloud	Windows and Linux	Single-session and multi-session	$12.50/month	60-day free trial	Multiple support tiers through VMware

OneDrive, the default online storage and syncing service for Windows and Microsoft 365, offers a wealth of powerful features, as well as apps for all major platforms. It's full-featured, polished, and the one you should use.

PROS

- ✓ Excellent interface
- ✓ Clients for Android, iOS, Mac, and Windows
- ✓ Well integrated with Windows and Microsoft 365
- ✓ Strong online photo presentation and management
- ✓ Powerful file-sharing and collaborative editing

CONS

- ✗ Less free storage than some competitors
- ✗ Doesn't back up all folders on drive

IDrive is both a file-syncing and storage tool as well as a full backup service. While its file-sharing features could be more robust, IDrive's low per-GB cost makes it an excellent value.

PROS

- ✓ Easy setup
- ✓ Unlimited devices per account
- ✓ Free local backup
- ✓ Fully encrypted
- ✓ Fast upload speeds
- ✓ Excellent value

CONS

- ✗ Storage isn't unlimited
- ✗ Limited Linux support
- ✗ Complete disk image backup only for Windows

Google Drive is one of the slickest, fullest-featured, and most generous cloud storage and syncing services, with excellent productivity suite collaboration capabilities.

PROS

- ✓ Generous free storage space
- ✓ Excellent productivity-suite collaboration
- ✓ Includes desktop-to-desktop file syncing
- ✓ Many third-party integrations
- ✓ Cross-platform apps

CONS

- ✗ No password-protection for shared files
- ✗ Mobile apps could do more; multiple apps required for all related functions
- ✗ Some privacy concerns

Dropbox, once a pioneer in the cloud storage and file-sharing space, is falling behind the competition, especially on price. It's as reliable as ever, but it's not the best value.

PROS

- ✓ Plenty of additional features
- ✓ Integrations with thousands of applications
- ✓ Fast upload speeds

CONS

- ✗ Expensive
- ✗ A once-simple service has become too complex

SpiderOak One Backup offers top-notch security features and flexible backup options. It costs more than many competitors, but it does not impose any limits on the number of PCs you can back up with each account.

PROS

- ✓ Strong privacy features
- ✓ Supports an unlimited number of computers per account
- ✓ Excellent versioning capabilities
- ✓ Includes file-sharing and folder-syncing options
- ✓ Well-designed, full-featured desktop application

CONS

- ✗ Lacks multi-factor authentication option for web logins
- ✗ No longer offers mobile apps

Reliable and with hundreds of app integrations, Box works well for businesses, but home users will find the paid plan isn't the best value on the market.

PROS

- ✓ Flexible web app that can open files using desktop software
- ✓ Integrations with over 1,500 applications
- ✓ Support for offline syncing

CONS

- ✗ Expensive for the amount of storage offered
- ✗ Low file-size limit
- ✗ Can't configure location of desktop syncing app

iCloud Drive is the simplest cloud storage and syncing program for Macs, iPhones, and iPads, and it's surprisingly good for Apple users who also have a Windows PC.

PROS

- ✓ Tightly integrated with Apple products
- ✓ Capable Windows client and web access
- ✓ Fast uploads

CONS

- ✗ No Android or Linux clients
- ✗ Can only share files with people who have an Apple ID

Comparison:

Criteria	Amazon WorkSpaces	CloudM	eyeOS	Qubes
Price	Variable pricing based on usage and features. Offers different bundles and options.	Variable pricing based on the selected plan and features.	Free (open-source) with premium features requiring subscription.	Free (open-source).
Mobile App Availability	Amazon WorkSpaces has dedicated mobile apps for iOS and Android.	CloudM offers mobile apps for iOS and Android.	EyeOS provides a mobile-friendly interface but may not have dedicated mobile apps.	Qubes is primarily designed for desktops/laptops and lacks dedicated mobile apps.

Storage Space	Offers flexible storage options based on the selected plan.	Provides customizable storage options as per subscription plans.	Depends on the server setup and user's storage allocation.	Depends on the local storage of the machine it's installed on.
UI	Amazon WorkSpaces has a user-friendly and customizable interface.	CloudM provides an intuitive and user-friendly interface.	EyeOS offers a clean and user-friendly interface.	Qubes has a more technical interface designed for security and functionality.
Sharing via Social Media	Limited native sharing capabilities. May require integration with other services.	Offers sharing via social media through integrations or native features.	Sharing capabilities might depend on additional integrations or extensions.	Primarily focuses on local and secure data management, may not have native social media sharing features.

Chat Facility	May integrate with third-party chat applications.	Provides chat and collaboration features within the platform.	Chat functionality might be available through integrations or external tools.	Focuses on security and isolation, so chat functionalities might rely on external applications.

Conclusion:

In conclusion, the implementation and comparison of Desktop as a Service (DaaS) models underscored their effectiveness in reducing costs, enhancing scalability, and streamlining desktop management, providing valuable insights into the transformative impact of cloud-based solutions for businesses.

References

1. https://www.vmware.com/in/topics/glossary/content/desktop-as-a-service.html#:~:text=Desktop%20as%20a%20Service%20(DaaS)%20is%20a%20cloud%20computing%20offering,with%20a%20per%2Duser%20subscription.
2. https://aws.amazon.com/workspaces/