



Key Design Areas for Well Architected AVD



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Application delivery

Host Pool Types *(Cost Optimization, Reliability)*

- **Personal pools:** Persistent user environment
- **Pooled pools:** Cost-efficient, shared resources

Load-Balancing Algorithms

(Cost Optimization, Performance Efficiency)

- **Breadth-first:** Enhances user experience
- **Depth-first:** Maximizes resource utilization

Scaling Plans

(Cost Optimization, Performance Efficiency)

- Automatically adjust host availability
- Optimize scaling settings for cost efficiency

Regions *(Reliability, Performance Efficiency)*

- Deploy session hosts near users
- Use availability zones for resiliency

Compute Size *(Cost Optimization, Performance Efficiency)*

- Match VM size to workload needs
- Use specialized VMs (GPU, secure types)

Storage Solutions

(Cost Optimization, Performance Efficiency)

- Select optimal disk type and size
- Balance performance and cost efficiency

Fault Tolerance *(Cost Optimization, Reliability)*

- Distribute hosts across availability zones
- Implement DR (golden images or backups)

Networking & Connectivity

Client Latency *(Performance Efficiency)*

- Measure latency with Azure testing tools (Latte, SockPerf)
- Use RDP Shortpath and UDP-based split tunneling

On-Premises Connectivity

(Performance Efficiency, Operational Excellence)

- Assess bandwidth and latency needs for hybrid connections
- Avoid IP conflicts; design subnets for growth

Multi-region Connectivity

(Performance Efficiency, Cost Optimization)

- Replicate critical services across regions
- Choose VMs with accelerated networking to reduce latency

Network Security *(Security, Operational Excellence)*

- Adopt identity-driven security over traditional perimeters
- Implement security groups, Azure Firewall, and service tags

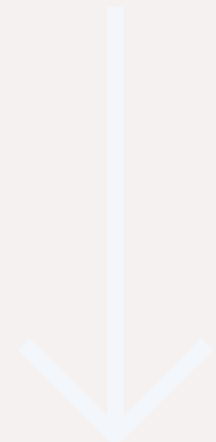
Private Endpoints (Private Link) *(Security)*

- Use Azure Private Link for internal connectivity
- Configure DNS for private endpoints

RDP Shortpath

(Performance Efficiency, Cost Optimization)

- Enable direct UDP connections for lower latency
- Understand managed/unmanaged network connection options



Monitoring

Health & Availability

(Reliability, Operational Excellence)

- Use Service Health for Azure outage alerts
- Monitor VMs and storage with Resource Health

Performance Monitoring

(Performance Efficiency, Operational Excellence)

- Configure diagnostics in Log Analytics
- Track key VM metrics and storage thresholds

Security Monitoring *(Security)*

- Enable Defender for Cloud and Sentinel
- Regularly review logs, security updates, and compliance

Reporting *(Operational Excellence)*

- Use Azure Virtual Desktop Insights dashboards
- Create custom reports with Log Analytics data

Alerting

(Performance Efficiency, Operational Excellence)

- Set proactive alerts for performance issues
- Monitor critical Azure Virtual Desktop events

Security & IAM

Role-Based Access Control (RBAC) *(Security, Operational Excellence)*

- Define roles clearly (built-in/custom)
- Use security groups for role assignment

Session Host Security *(Security)*

- Restrict user access and software (AppLocker, screen capture protection)
- Enable Microsoft Defender, Application Control, and auto-sign-out

Identity and Networking *(Security)*

- Enforce MFA and Conditional Access
- Implement hub-spoke architecture and isolate networks

Data Encryption in Transit *(Security)*

- Ensure TLS 1.2 compatibility between clients and hosts
- Understand Azure Virtual Desktop encryption methods

Confidential Computing *(Security, Performance Efficiency)*

- Use confidential VMs (DCasv5, ECasv5) for regulated industries
- Protect sensitive data during active processing

Operational procedures

Shared Responsibilities

(Operational Excellence, Performance, Security)

- Understand Microsoft vs. customer-managed components
- Actively manage your network, session hosts, and workspaces

Environment Management

(Operational Excellence, Reliability)

- Deploy session hosts with availability zones
- Establish operational baselines and proactive monitoring

Awareness of Updates *(Operational Excellence)*

- Regularly review Azure Virtual Desktop updates
- Monitor monthly release notes

Monitor Limit Thresholds *(Operational Excellence)*

- Track resource limits (VMs, vCPUs, FSLogix IOPS)
- Automate VM token refresh to prevent expirations

Golden Image Updates

(Operational Excellence, Reliability)

- Deploy second host pool for low-risk updates
- Manage updates carefully to avoid capacity issues

Image Management

(Operational Excellence, Security)

- Automate golden image updates with VM Image Builder
- Use Azure Marketplace, scripts, and Key Vault for security

Version Compliance *(Operational Excellence)*

- Regularly review component release notes
- Promptly install available updates

Storage

Region Selection

(Performance Efficiency, Cost Optimization)

- Verify VM SKU availability and compliance requirements
- Deploy storage resources in the same region as host pools to reduce latency

VM and Disk Sizing

(Performance Efficiency, Cost Optimization)

- Right-size VMs (CPU, GPU, memory, storage) based on workloads
- Use scaling plans; choose SSD disks for optimal performance and SLAs

Applications (App Attach) *(Operational Excellence)*

- Use App Attach for flexible, efficient application deployment
- Separate App Attach storage from FSLogix; plan permissions and disaster recovery carefully

User Profiles (FSLogix)

(Performance Efficiency, Cost Optimization)

- Use FSLogix for efficient profile management
- Prefer Azure Files; consider Azure NetApp Files for large-scale or high-performance scenarios



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