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Transforming Hospitality Operations with Cloud-Native Azure Solutions

PROBLEM STATEMENT

The client's production Azure environment could not keep pace with the business. Thousands of guests moving through their venues each weekend drove unpredictable traffic surges, yet the platform had no autoscaling, no private networking, and no cost governance. The engagement covered full-stack infrastructure across Production, UAT, and Development environments, with three clear goals: eliminate downtime risk at peak hours, lock down exposed data endpoints, and stop paying for cloud resources nobody was using.

CHALLENGES

No Resilience Under Peak Load :
Fixed-capacity VMs with no autoscaling meant weekend surges and event nights regularly caused degraded performance, with no automatic recovery when instances failed.

Uncontrolled Non-Production Costs :
Dev and UAT environments ran around the clock regardless of usage, burning idle compute spend with no schedule or governance in place.

Public Endpoints and Exposed Secrets :
Databases and backend APIs sat on the public internet. Credentials lived in configuration files. For a brand serving thousands of guests, this was an unacceptable security posture.

Fragmented Observability :
No centralised logging or alerting existed across environments. Problems surfaced only after guests had already felt the impact.

Solution

1

Autoscaling Compute Tied to Venue Hours:
Azure VMSS was deployed inside private subnets with scheduled scaling aligned to opening and closing hours, and metric-based scaling for unplanned surges. Azure Managed Identity replaced every hard-coded credential across the stack.

2

Versioned Image and Container Pipeline:
Azure Compute Gallery became the single source for VM images across Production and UAT. Azure Container Registry handled container versioning, giving the team a clean rollback path for any incident.

3

Private Networking and Perimeter Security:
Azure Application Gateway with WAF filters inbound traffic at the perimeter. MySQL Flexible Server was moved to private endpoint access with public internet fully disabled, and a VPN was provisioned for authorised DBA access. Azure Front Door handles low-latency media delivery globally.

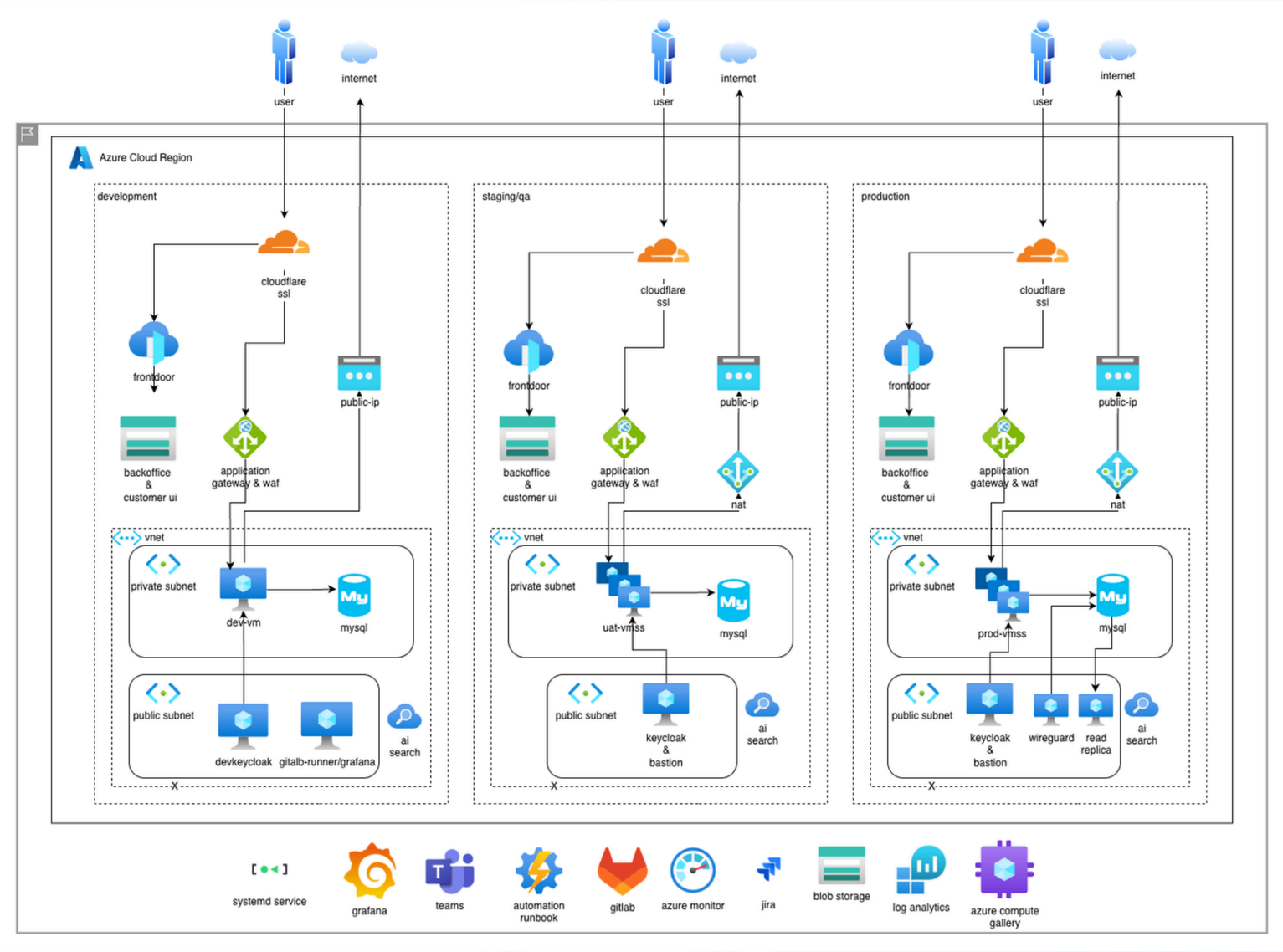
4

Scheduled Cost Governance:
Azure Automation Account runbooks shut down Dev and UAT outside working hours and restart them each morning, cutting idle compute spend with no manual effort and no impact on production.

5

Centralised Observability:
Azure Log Analytics feeds a Grafana instance with unified dashboards across all three environments. Azure Monitor alerts surface anomalies before they reach guests.

Architecture and Infrastructure Overview



Impact

1. Infrastructure scales automatically with venue demand, handling peak nights without degradation or manual intervention.

2. Zero public endpoints remain. All services operate within private subnets with WAF, Managed Identity, and VPN controls in place.

3. Non-production cloud costs reduced significantly through automated environment scheduling.

4. MySQL migrated to private endpoint access with no downtime.

5. Engineering teams have full visibility across all environments through a single Grafana dashboard, with proactive alerting enabled.

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