# Azure Load Balancer Services – Comparison

This document provides a detailed comparison of Azure's advanced load balancing and traffic distribution services: Azure Load Balancer (ALB), Application Gateway (AGW), Traffic Manager, and Azure Front Door.

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| Feature / Service | Azure Load Balancer (ALB) | Application Gateway (AGW) | Traffic Manager | Azure Front Door |
| OSI Layer | Layer 4 (Transport) | Layer 7 (Application) | DNS-based (Layer 7) | Layer 7 (Application) |
| Protocol Support | TCP, UDP | HTTP, HTTPS | HTTP, HTTPS, TCP | HTTP, HTTPS |
| Routing Type | IP-based | URL/path-based | DNS-based | URL/path-based |
| Global Reach | No (regional only) | No (regional only) | Yes | Yes |
| SSL Termination | No | Yes | No | Yes |
| Web Application Firewall | No | Yes | No | Yes |
| Health Probes | Basic TCP/HTTP | Path-based HTTP | Endpoint monitoring | Path-based HTTP |
| Autoscaling Support | Yes | Yes | No | Yes |
| Custom Routing Rules | No | Yes | Yes (priority, performance) | Yes (priority, latency, geo) |
| IP Type | Public & Private | Public & Private | DNS-based | Public |
| Use Case | Internal/external traffic | Web apps with advanced routing | Geo-distributed failover | Global web apps, CDN, WAF |
| Cost | Low | Moderate | Low | Higher |

## Summary Recommendations

- Azure Load Balancer (ALB): Best for basic TCP/UDP traffic, internal or external.

- Application Gateway (AGW): Ideal for web apps needing SSL, WAF, and path-based routing.

- Traffic Manager: Use for DNS-based global failover and geo-routing.

- Azure Front Door: Best for global web apps needing acceleration, WAF, and smart routing.