Security Challenges in Cloud Computing

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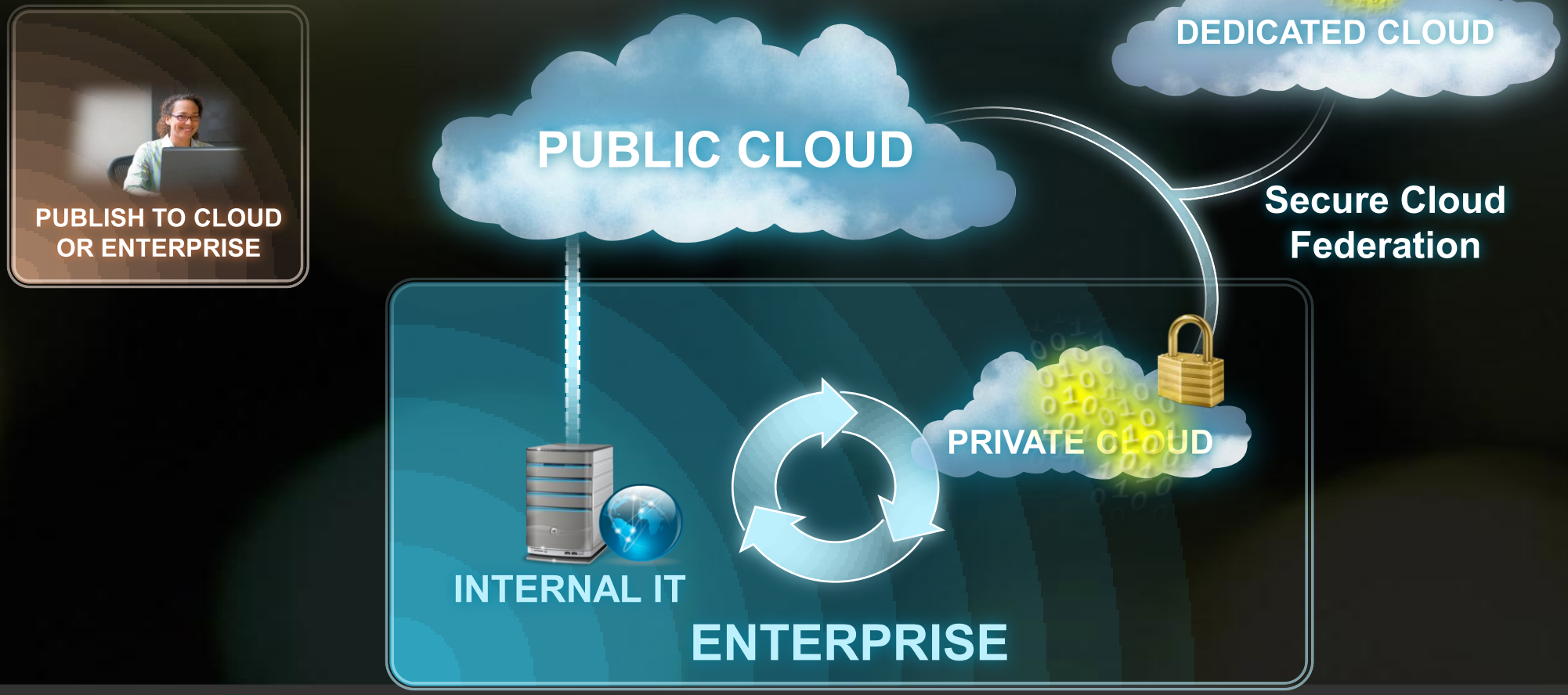
Microsoft

Microsoft's Vision of Cloud Computing

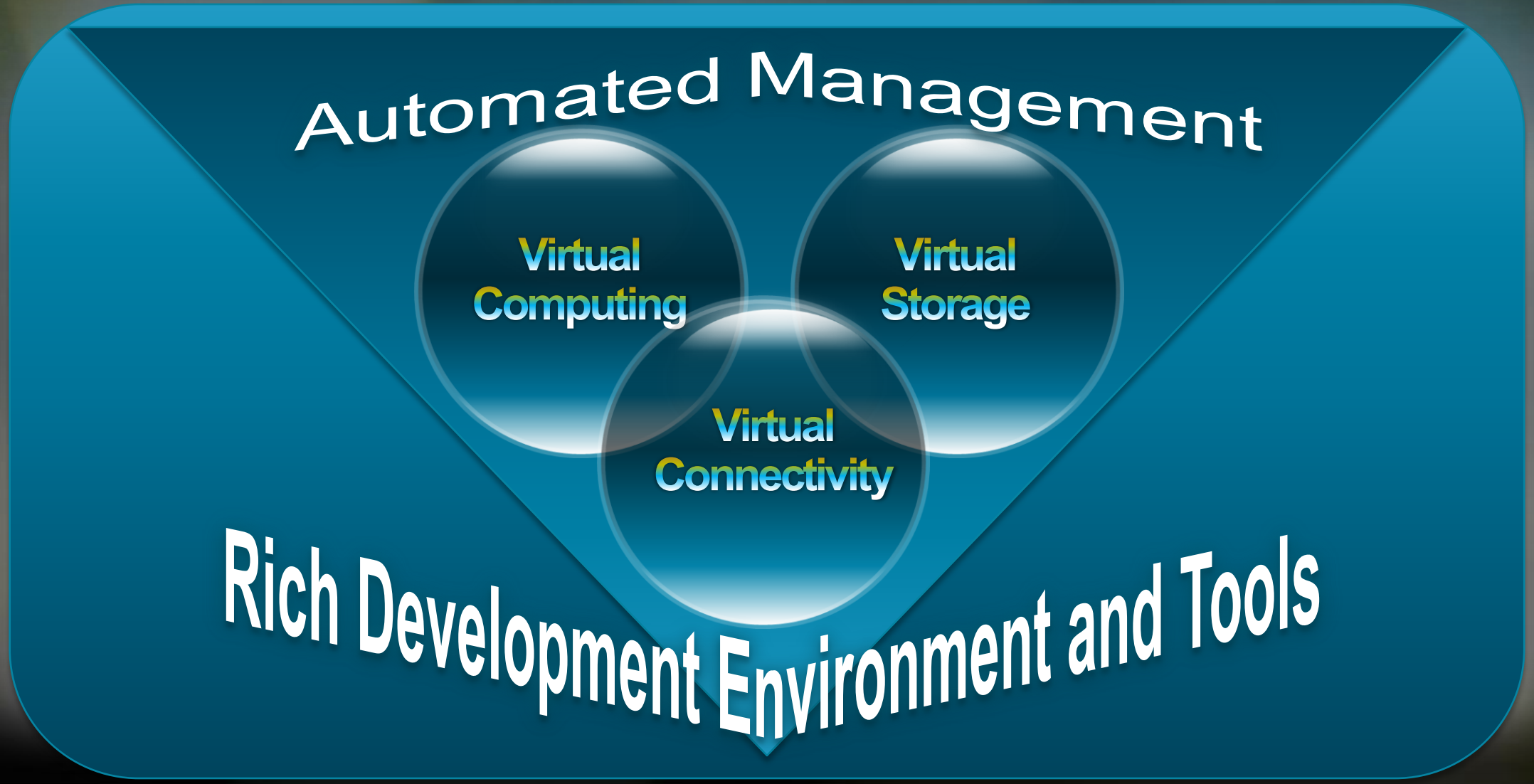
- A distributed computing platform, where virtualized resources are network accessible, on demand, and where resources are scalable, durable, available, and flexible.



Value Proposition of Cloud Computing

- Low CapEx, if any
- Lower OpEx
- Pay as you go
- Greater elasticity for scaling out/in – Illusion of infinite resources
- Greater agility
- Always available
- Resilient environment

Windows Azure Cloud Computing Pillars



The Windows Azure Platform

Microsoft's Vision of Seamless Platforms

Windows

Client

Windows Server 2008

Server

Windows Mobile

Mobile

+

Windows Azure

Cloud

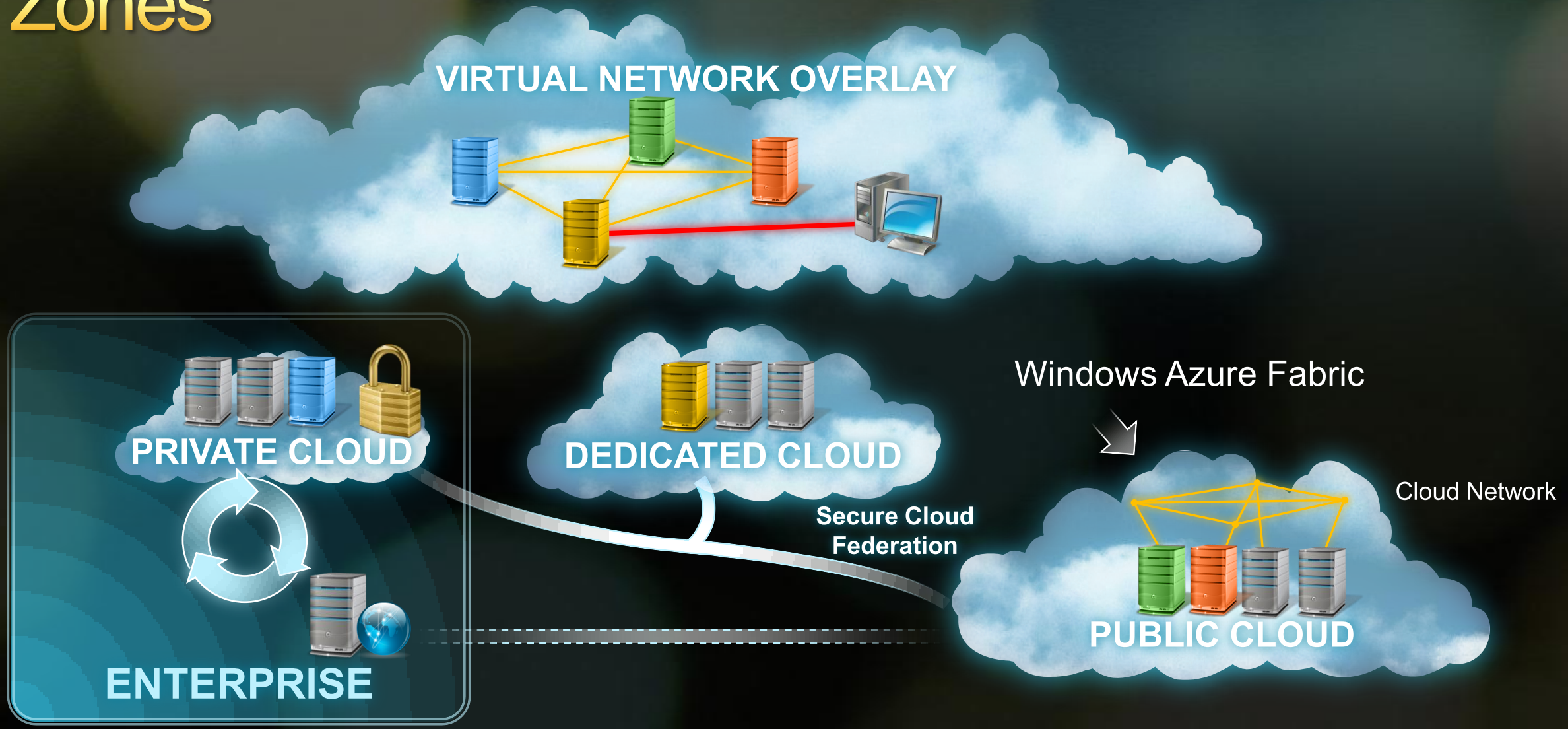
Extending Windows to the Cloud

Microsoft

Security Challenges in Cloud Computing

- Isolating tenants from each other in a *multi-tenancy environment*
- Providing private access to resources in the cloud
- Securing private data
- Managing identity and federation
- Managing access control
- Securing connectivity beyond the cloud
- Complying with regulation – SOX, HIPAA, PCI
- Extending on-premises security management and practices to the clouds

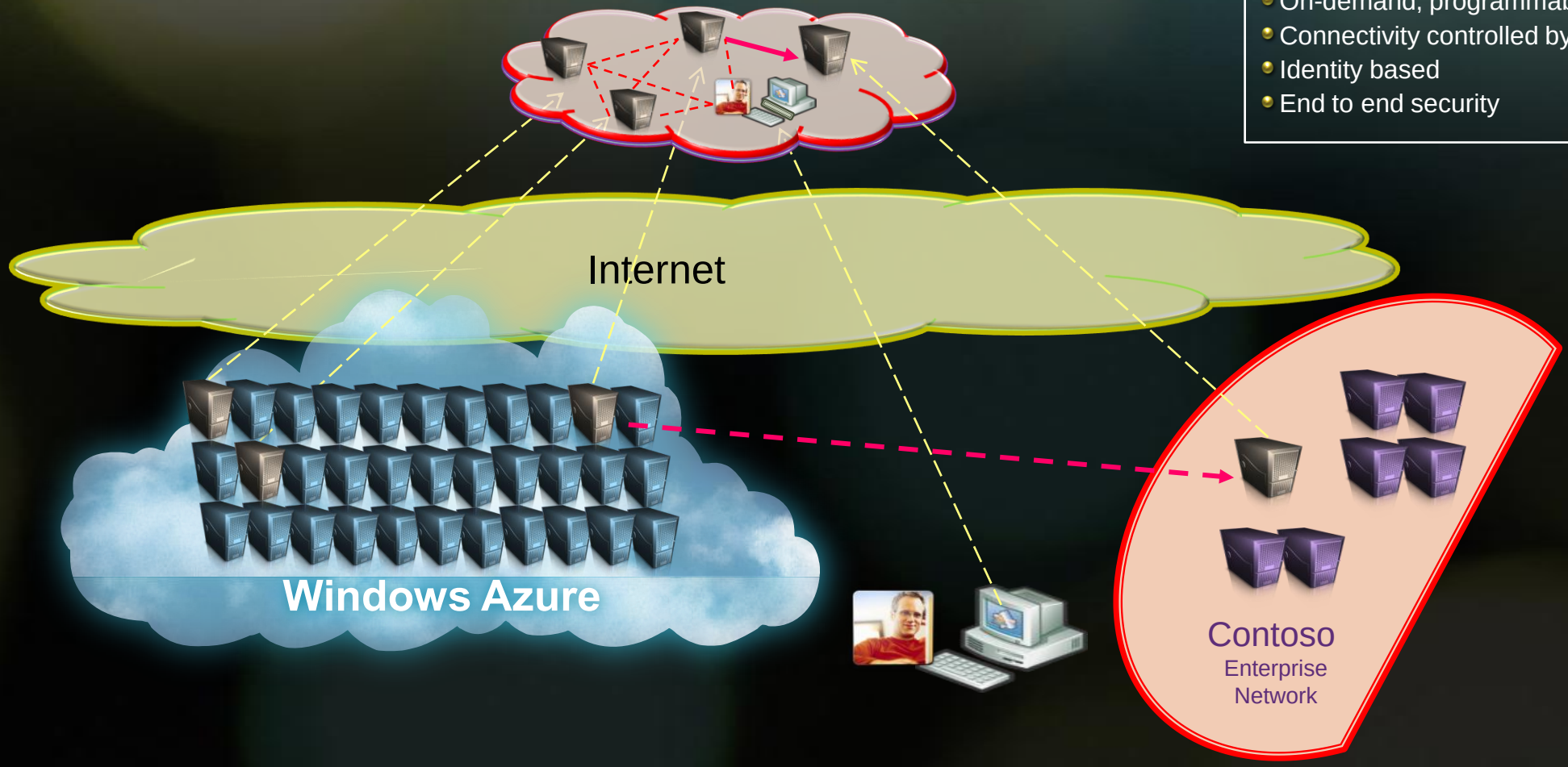
Virtualizing the Network and Creating Security Zones



Secure Connectivity beyond the Cloud

Virtual Network Overlays are:

- On-demand, programmable networks
- Connectivity controlled by policy
- Identity based
- End to end security



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