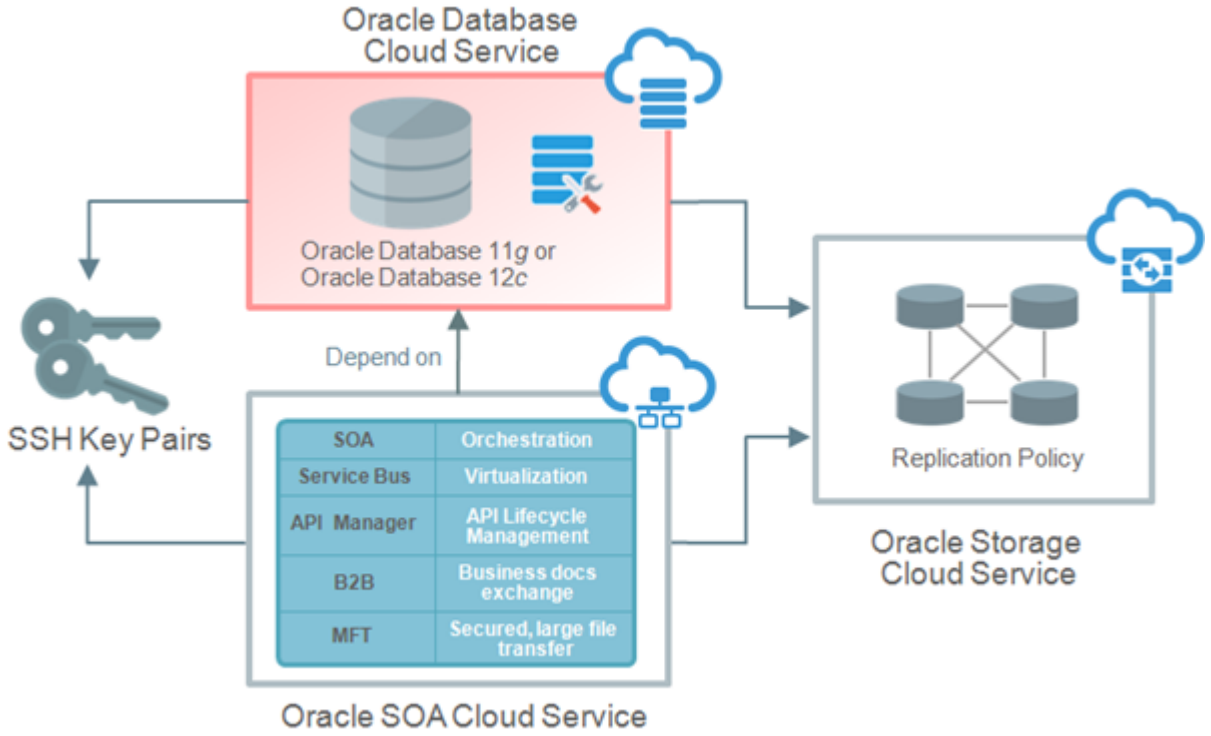
Oracle SOA Cloud Integration Project

Author: Gopinath Soundarrajan
Oracle Infrastructure Cloud Architect
Date: 03/Dec/2016

Oracle SOA Cloud Integration Project



Oracle SOA Cloud Services For Integration with On Premises Legacy CRM and ERP

Integration Scenario (Dev, SIT(Single Node) Pre-prod, Prod (Cluster Instances)

Remedy Application

Inbound/Outbound web service

HTTP/HTTPS

ORACLE SOA CLOUD

Amdocs Application

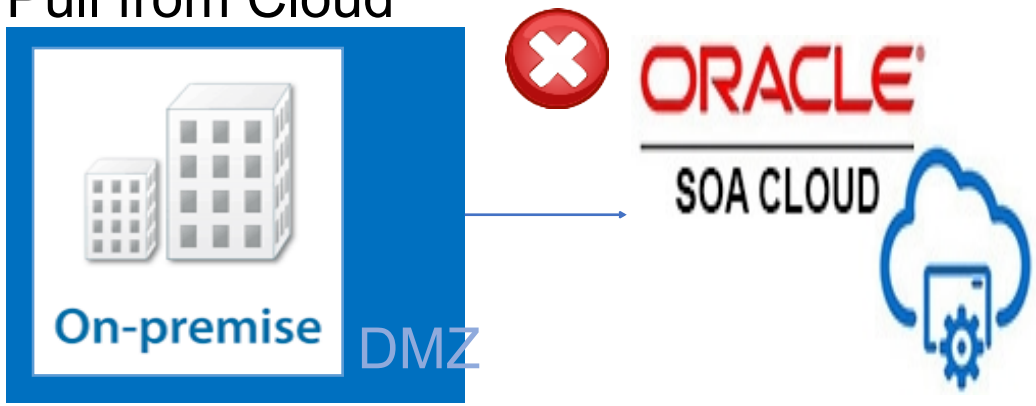
Inbound/Outbound web service

HTTP/HTTPS

ORACLE SOA CLOUD

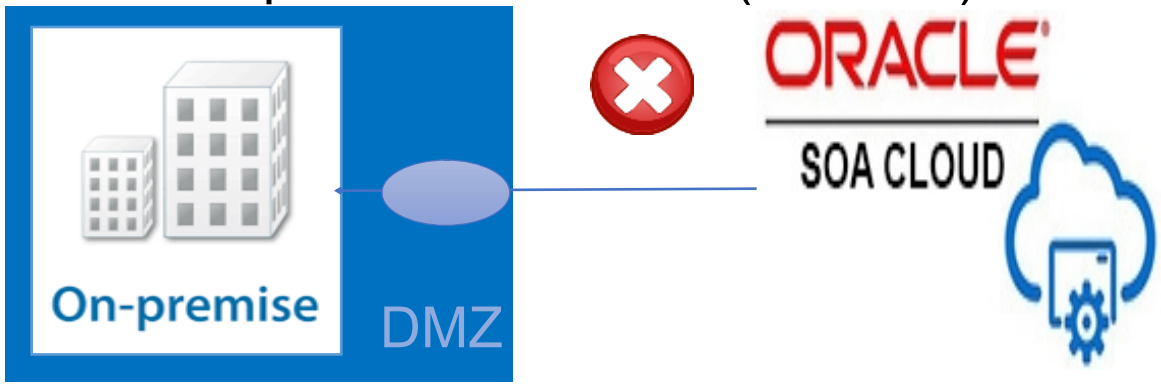
Connectivity Patterns : Cloud to On-Premise (1/2)

Pull from Cloud



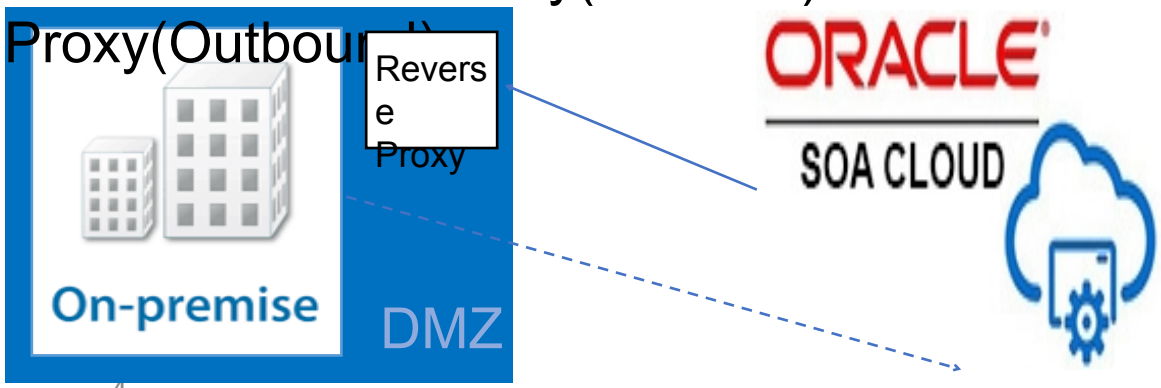
The on-premise system polls from the SaaS apps and picks up the message instead of having it delivered. Particularly suited for certain integration approaches wherein messages are trickling in, can be centralized and batched

Pattern: Open Firewall Ports (Inbound)



The on-premise system exposes the web services that needs to be invoked by the cloud application. This requires opening up firewall ports, routing calls to the appropriate internal services behind the firewall

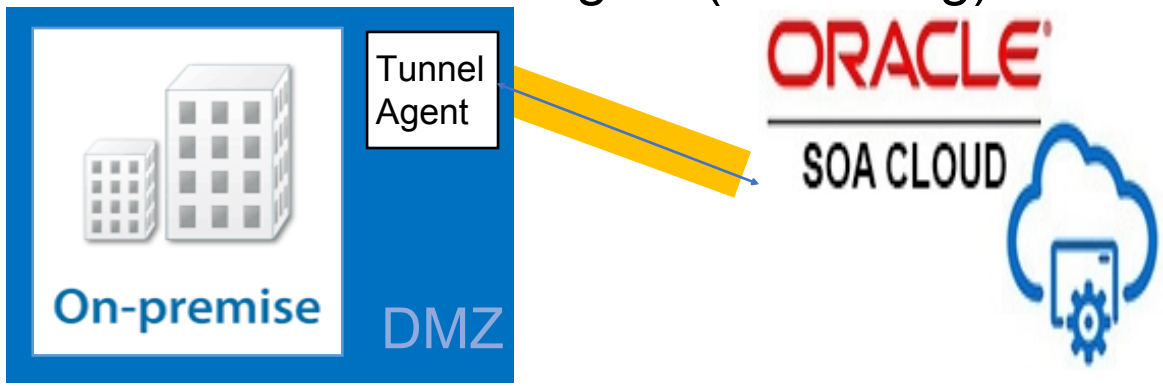
Pattern:Reverse Proxy(Inbound) & Proxy(Outbound)



The on-premise system uses a reverse proxy software on the DMZ to receive messages. The on-premise system uses a proxy software on the DMZ to send messages

Connectivity Patterns : Cloud to On-Premise (2/2)

Pattern: On-Premise Agent (Tunneling)



A light weight "agent" software sits behind the firewall and initiates the communication with the cloud, thereby avoiding firewall issues. It then maintains a bi-directional connection either with pull or push based approaches using the HTTP protocol. HTTP SSH Tunneling is one possible implementation option

Pattern: VPN

The on-premise network is "extended" to the cloud using Virtual Private Networking (VPN) so that messages are delivered to the on-premise system in a trusted channel

Connectivity Patterns : Comparative Study

No.	Connectivity Patterns	Pros & Cons	Comment
1.	Pull from Cloud	**Pros:** On-premise assets not exposed to the Internet, firewall issues avoided by only initiating outbound connections **Cons:** Polling mechanisms may affect performance, may not satisfy near real-time requirements	
2.	Pattern: Open Firewall Ports (Inbound)	**Pros:** Optimal pattern for near real-time needs. **Cons:** Needs firewall ports to be opened up, may not suffice for batch integration requiring direct database access	
3.	Pattern: Reverse Proxy (Inbound) & Proxy (Outbound)	**Pros:** Very secure, very flexible **Cons:** Introduces a new software component, needs DMZ deployment and management	
4.	Pattern: On-Premise Agent (Tunneling)	**Pros:** Light weight software, IT doesn't need to setup anything **Cons:** May bypass critical firewall checks e.g. virus scans	
5.	Pattern: VPN	**Pros:** Individual firewall ports don't need to be opened, more suited for high scalability needs, can support large volume data integration, easier management of one connection vs. a multitude of open ports **Cons:** VPN setup, specific hardware support, requires cloud provider to support virtual private computing	Preferred Option considering current and future use cases

Connecting to Instances in a Dedicated Site Using VPN

Oracle Network Cloud Service – VPN for Dedicated Compute service to establish a secure communication channel between Vodafone data center and the instances in Oracle Compute Cloud Service site

a) Request the Oracle Network Cloud Service – VPN for Dedicated Compute service by raising a Service Request (SR)

b) Provide a preshared key (PSK) in the 128-bit/SHA1 format. A range of private IP addresses is assigned from the 100.64/10 address range. check - private IP addresses of existing Oracle Compute Cloud Service instances do not conflict with private IP addresses used by on-premises devices

Configure VPN gateway device to connect to the Oracle Cloud VPN gateway

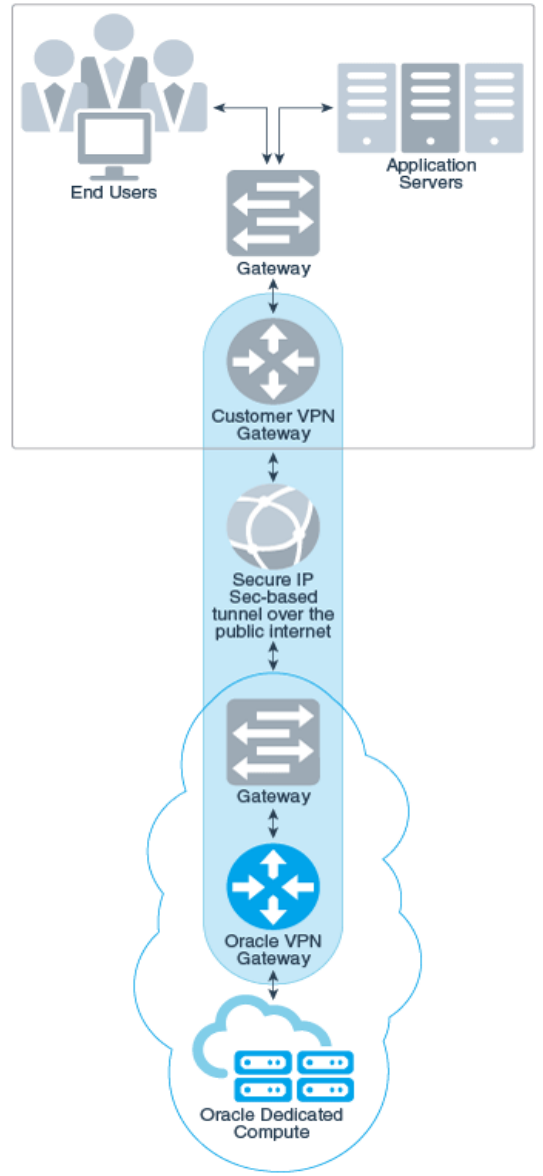
a) Configure Internet Key Exchange (IKE), Configure IPSec

b) Configure a tunnel interface, Configure a static route

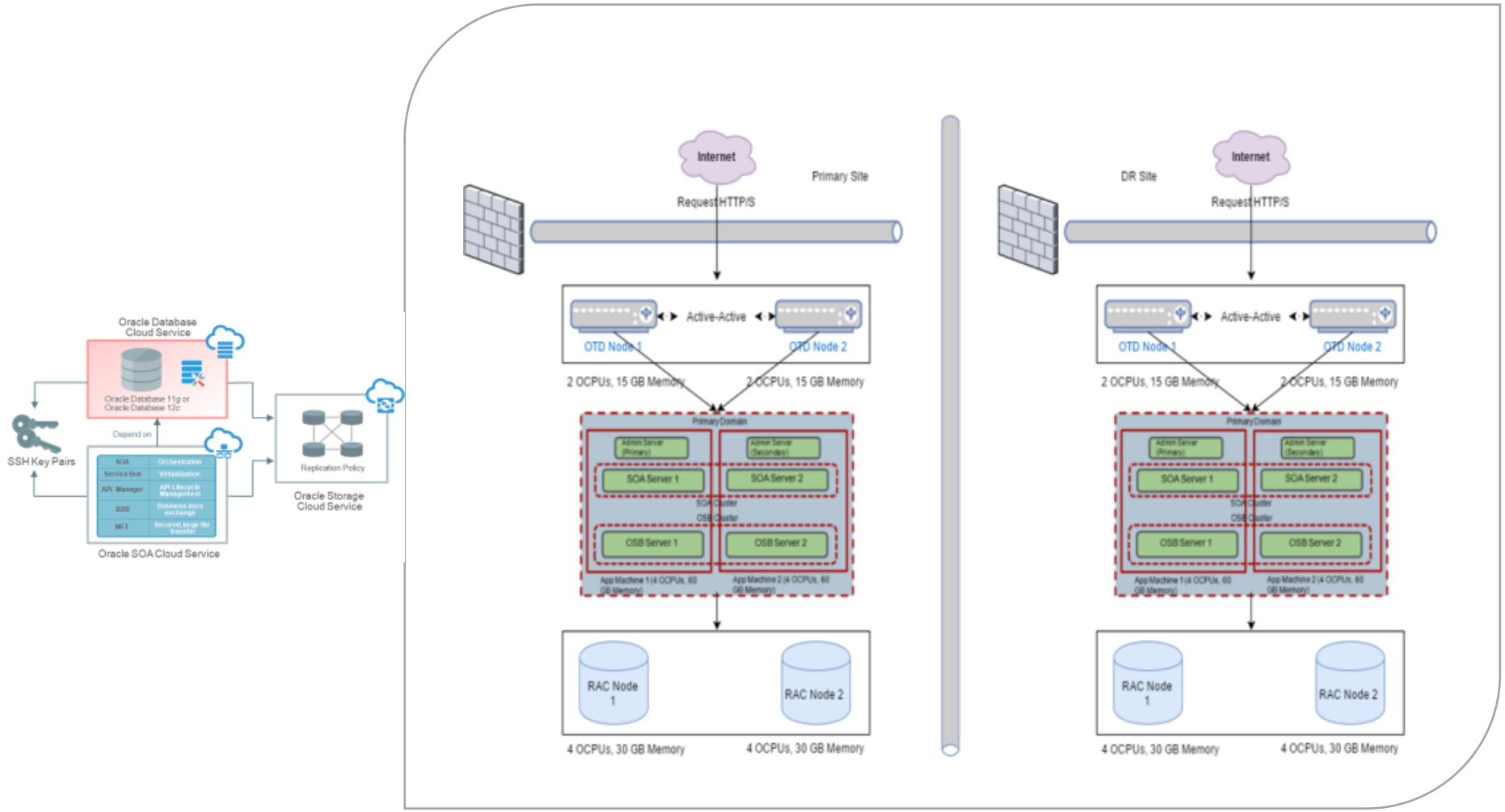
Start a VPN connection. Up to 20 VPN tunnels between data center and Oracle Compute Cloud Service site can be created

a) Sign in to the Oracle Cloud My Services application, Create a VPN Tunnel by configuring VPN Gateway IP, Pre-shared Key & Reachable Routes

b) VPN Gateway IP (IP address of the VPN gateway in data center). Reachable Routes (List of routes (network prefixes in CIDR notation) reachable). Gateway device must support route-based VPN and IKE (Internet Key Exchange) configuration using pre-shared keys



Oracle SOA Cloud Production Environment



Contact US

- Website: www.ebizoncloud.com

- Aus Tel: +61 415 989 008

- US Tel: +1 305 992 6149

- UK Tel: +44 7405811458