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DataReservoir.io™ Connector

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- Functional overview
- Network and Connectivity
- System Requirements
- Deployment

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Functional Overview

- Transfer data from customer sources into DataReservoir.io™
  - Continuous streaming for online scenarios
  - Data compression and value filtering for optimized bandwidth usage
  - Built-in resiliency to handle downtime and unreliable networks
- Support industry standard protocols OPC/UA
  - Stream historical data from OPC HDA and OPC UA HDA
  - Stream current data from OPC UA DA enabled sources
- Extendable
  - Can be extended to support custom OData and REST API sources

Network and Connectivity

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Connectivity Requirements

- Connector to data source
  - OPC UA HDA – both binary (any port) or web service (HTTPS) are supported
  - OPC HDA – local COM or remote DCOM are supported

- Connector to DataReservoir.io™
  - HTTPS - outbound communication to Azure IoT Hub (port 443)
  - HTTPS - outbound communication to Azure Application Insights (port 443)

Firewall Requirements

- The following hosts, IPs and ports must be allowed from the site of the DataReservoir Connector to the Internet.
- IMPORTANT: to ensure stable and performant connectivity, it is required that communication should not pass through a web proxy

What	DNS	IP (if specific)	Port
Data Receiver	reservoir-iot-prod.azure-devices.net	40.118.27.192	443
ALM Services Service Health Telemetry	dc.services.visualstudio.com dc.applicationinsights.microsoft.com	40.114.241.141 104.45.136.42 40.84.189.107 168.63.242.221	443
ALM Services Service Health Telemetry	rt.services.visualstudio.com rt.applicationinsights.microsoft.com	23.96.28.38 13.92.40.198	443

System Requirements

System Requirements

DataReservoir.io™ Connector system requirements depend on the amount of data to be transferred. Use the following base line:

- Per <500 tags, low-frequency up to 10Hz data rate
  - 1x virtual machine in customer network hosting the connector
  - (If data sources does not support historical access, downtime in streaming is to be expected during OS, software maintenance or network interruptions)
- Machine specifications:
  - OS: Windows Server 2016 or 2019 with Microsoft .NET Framework 4.7.2
  - Hardware/virtual machine with 4 cores, 8GB memory
  - Reliable network connectivity, minimum two NICs for dedicated internal and external network traffic is recommended

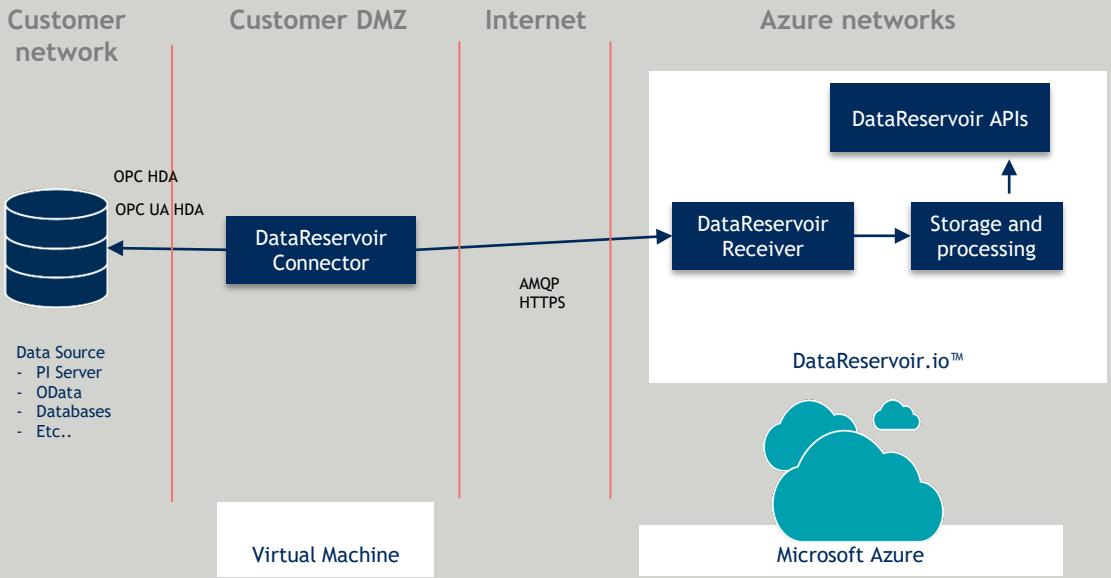
Deployment Topology

Connector Deployment

DataReservoir.io™ Connector must be deployed with outbound connectivity to data sources and DataReservoir.io™ endpoints.

The following illustrations are examples of topologies where Connector is deployed, either close to the data source (Edge), or running in the cloud.

Edge Deployment Topology



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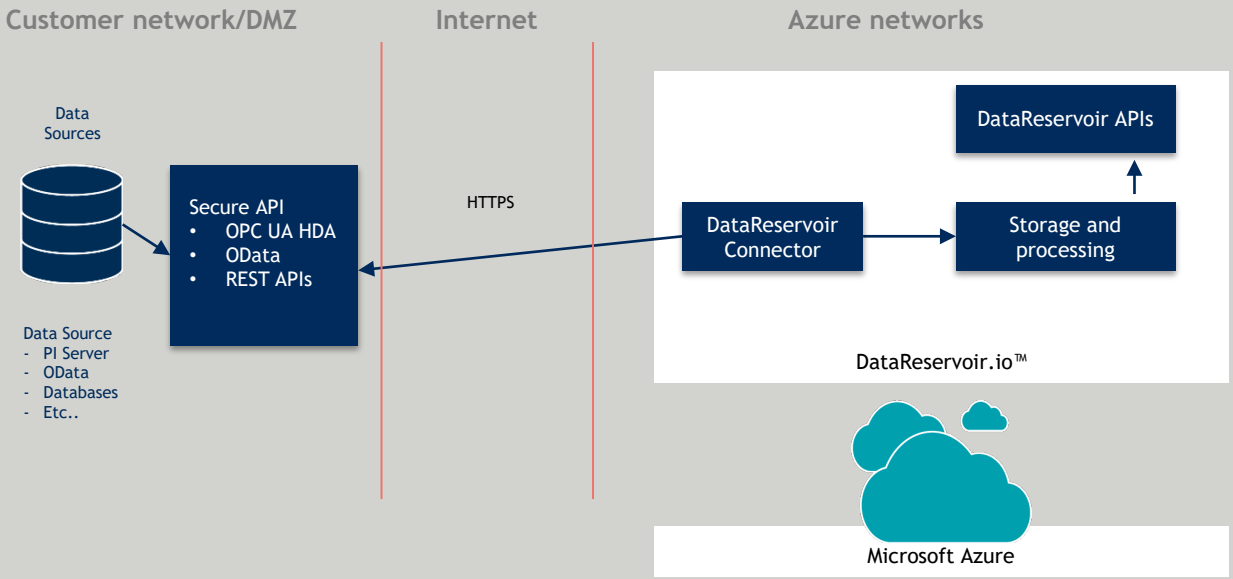
Cloud Deployment Topology



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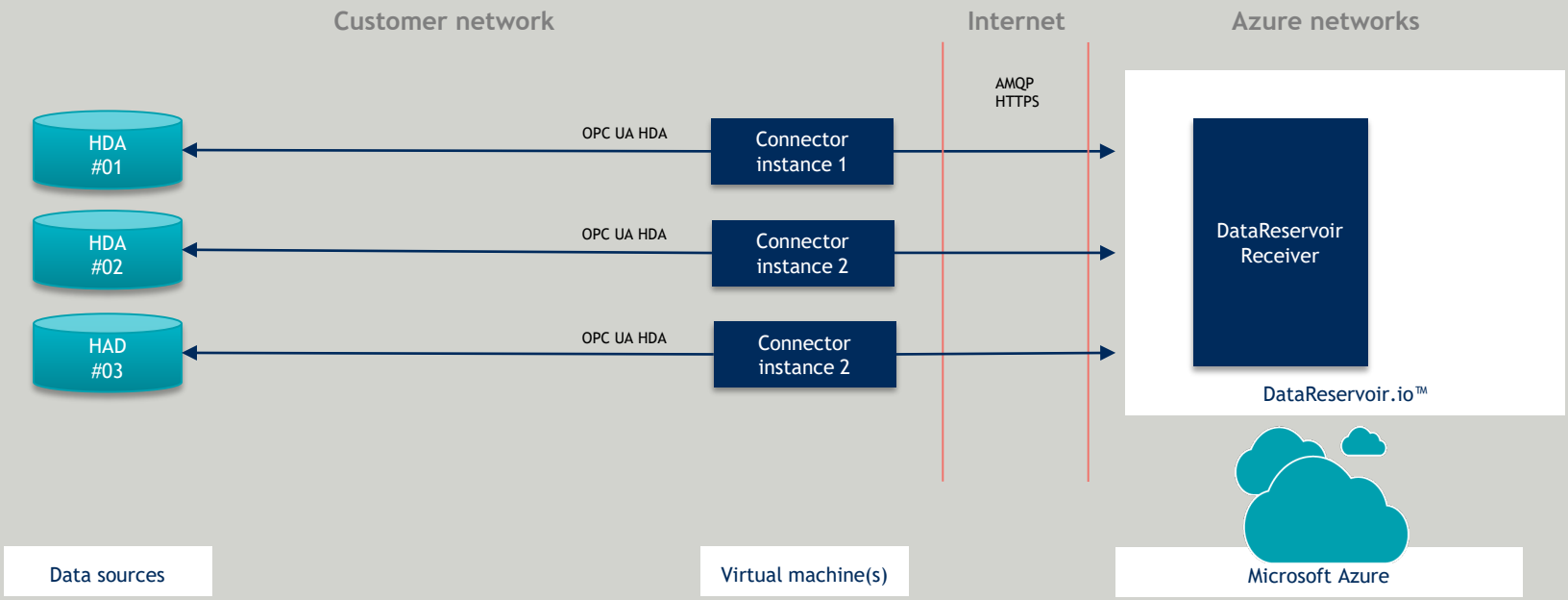
Advanced Topologies

DataReservoir.io™ Connector's primary mode of operation is connecting to history databases over the OPC HDA protocol (classic or UA).

In cases where history databases are not available, a historian middlware should be introduced to ensure that all data can be transfered to DataReservoir in a reliable manner.

The following examples illustrate some topologies with and without history-enabled data sources.

Data Sources with HDA Support



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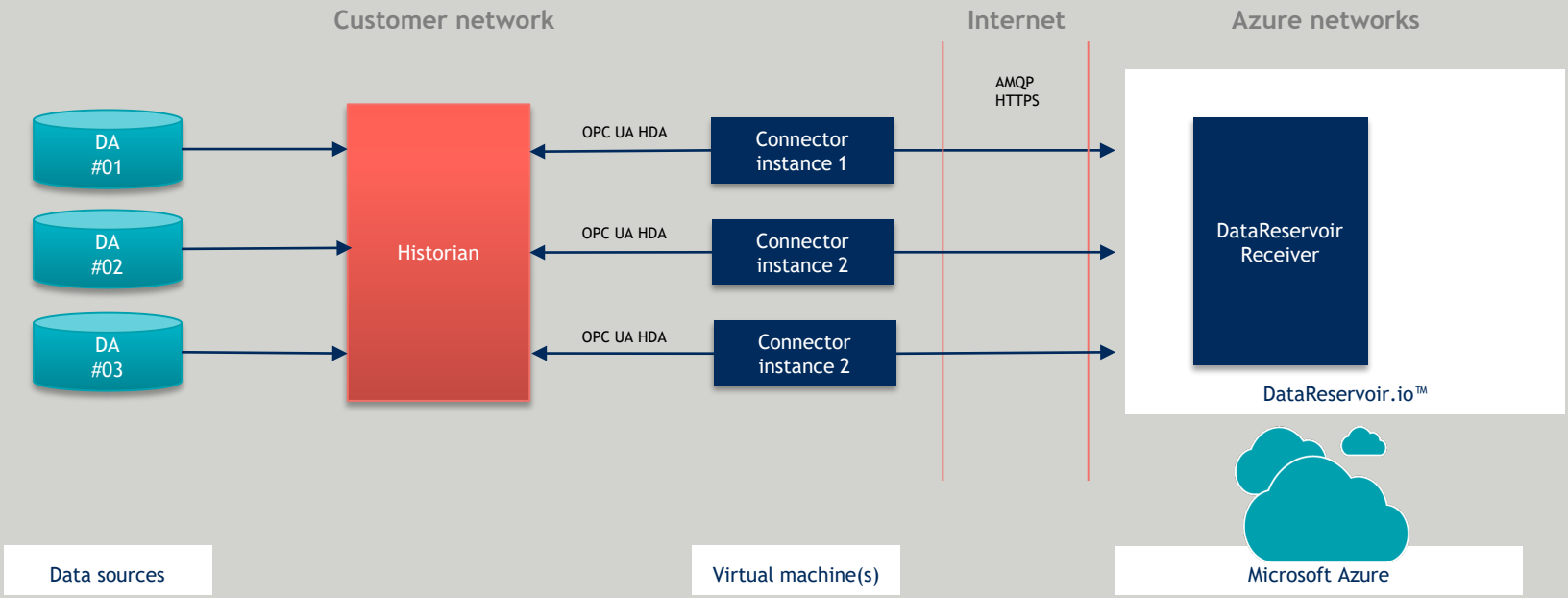
Data Sources without HDA Support

- Historian Middleware



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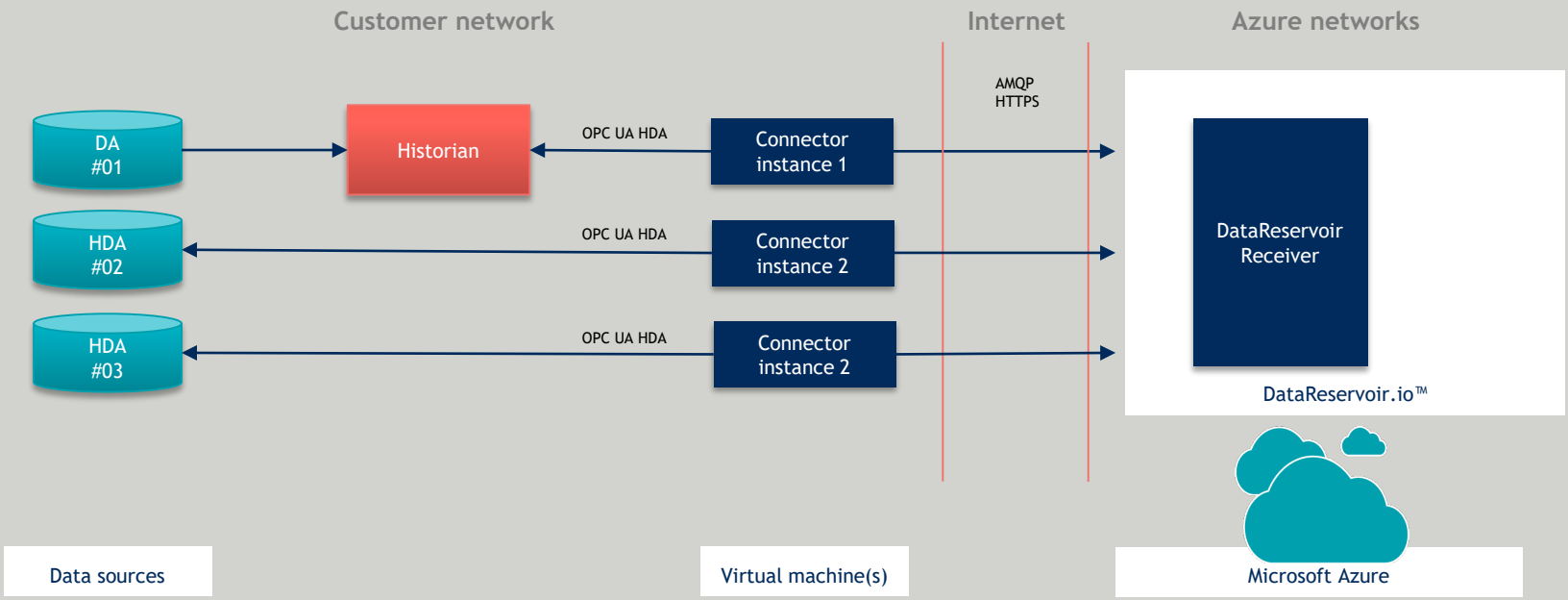
Data Sources w. Mixed HDA Support



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Contact 4Subsea: support@4subsea.com

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