



VOSS Insights Assurance Example Deployments Guide

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1. Assurance Deployment Examples

This guide provides a collection of example deployment scenarios for Insights Assurance.

1.1. Deployment Scenarios

1.1.1. Standard Non Redundant

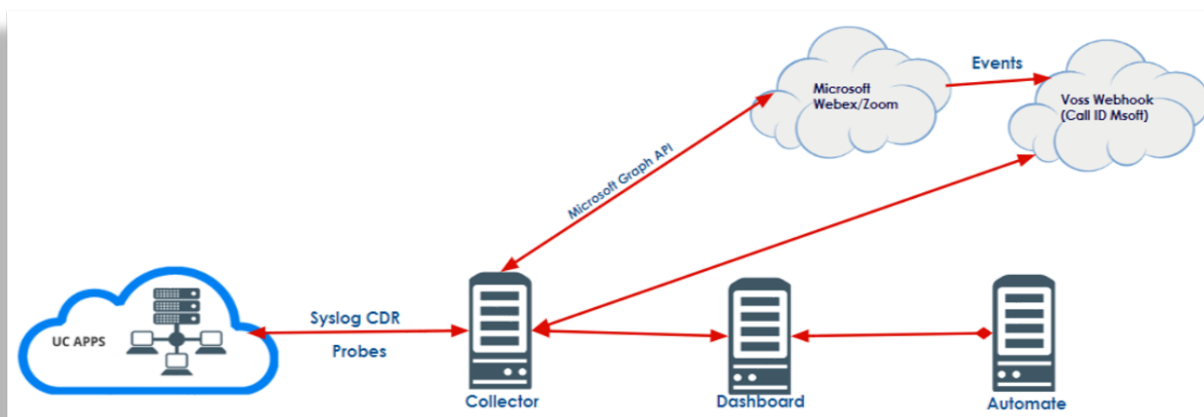
Standard Non Redundant with Automate

The table provides a solution description and considerations for the following example Assurance deployment scenario: 'Standard Non Redundant with Automate'

Solution	Considerations
<ul style="list-style-type: none">• Single Collector• Single Dashboard• VOSS Automate• Collector carries out Syslog/CDR and probe functions• VOSS Automate integrated with Dashboard• Other Cloud-based services via Arbitrator	<ul style="list-style-type: none">• No redundancy• All based On-Premise• Used for smaller deployments (under 5000 users)• Ability to Air Gap if required

The image provides a graphical overview of the following example Assurance deployment scenario: 'Standard Non Redundant with Automate'

Note: For port details, see [System Connectivity - Port Requirements](#).



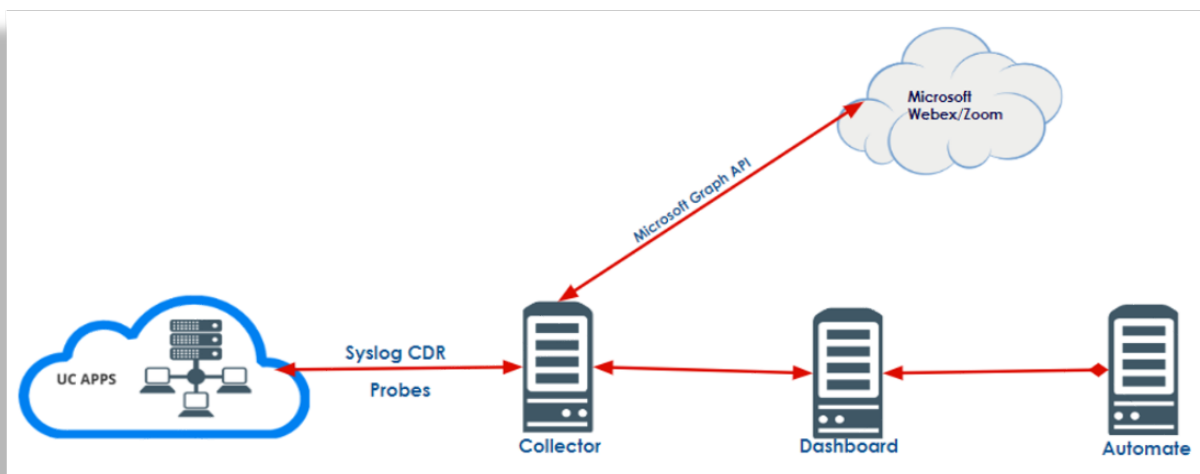
Standard Non Redundant with Automate (Graph API)

The table provides a solution description and considerations for the following example Assurance deployment scenario: 'Standard Non Redundant with Automate (Graph API)'

Solution	Considerations
<ul style="list-style-type: none"> • Single Collector • Single Dashboard • VOSS Automate • Collector carries out syslog/CDR and probe functions • VOSS Automate integrated with Dashboard • Other Cloud-based services via Arbitrator 	<ul style="list-style-type: none"> • No Redundancy • All based On-Premise • Used for smaller deployments (under 500 users) • Ability to Air Gap if required • Graph API

The image provides a graphical overview of the following example Assurance deployment scenario: 'Standard Non Redundant with Automate (Graph API)'

Note: For port details, see [System Connectivity - Port Requirements](#).



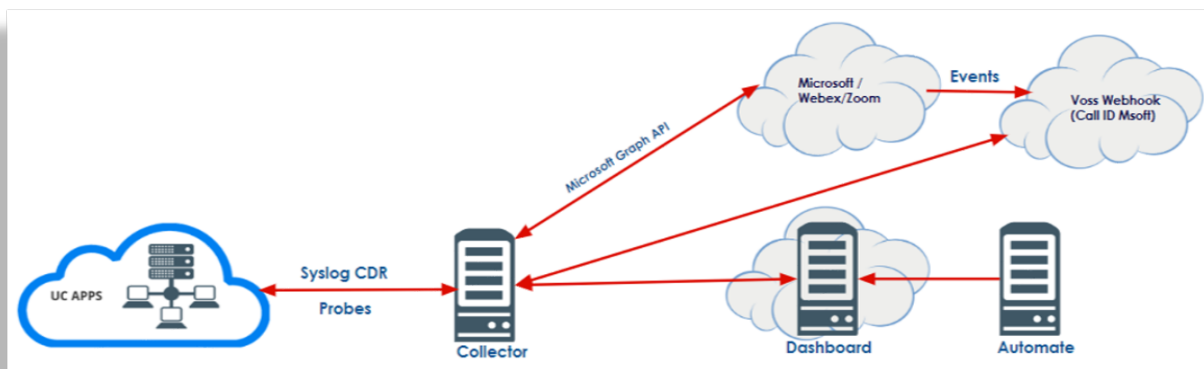
Standard Non Redundant with Automate Hybrid

The table provides a solution description and considerations for the following example Assurance deployment scenario: 'Standard Non Redundant with Automate Hybrid'

Solution	Considerations
<ul style="list-style-type: none"> • Single Collector On-Premise • Single Dashboard hosted in customer/VOSS Cloud • VOSS Automate • Collector carries out syslog/CDR and probe functions • VOSS Automate integrated with Dashboard • Other Cloud-based services via Collector 	<ul style="list-style-type: none"> • No data redundancy • Smaller user and device sized deployment < 5000 users • Network

The image provides a graphical overview of the following example Assurance deployment scenario: 'Standard Non Redundant with Automate Hybrid'

Note: For port details, see [System Connectivity - Port Requirements](#).



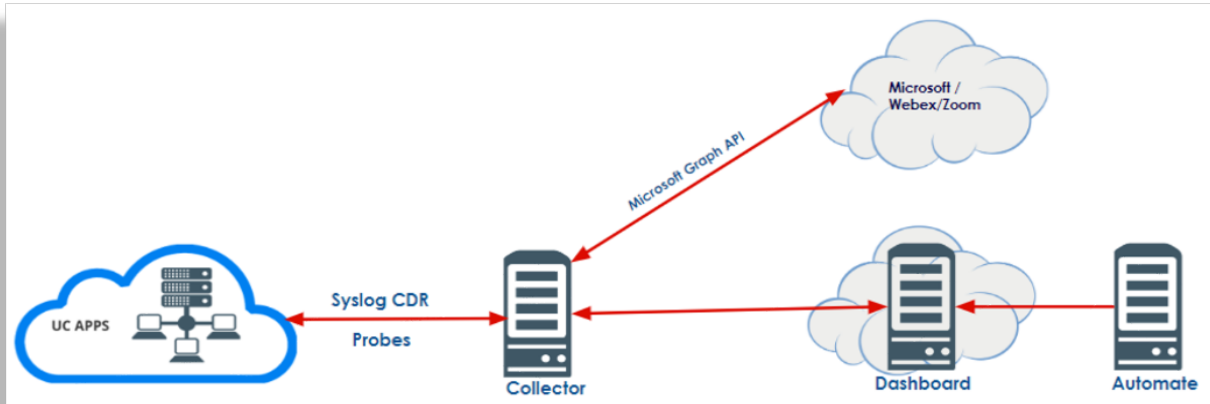
Standard Non Redundant with Automate Hybrid (Graph API)

The table provides a solution description and considerations for the following example Assurance deployment scenario: 'Standard Non Redundant with Automate Hybrid (Graph API)'

Solution	Considerations
<ul style="list-style-type: none"> • Single Collector On Premise • Single Dashboard hosted in Customer / VOSS Cloud • VOSS Automate • Collector carries out syslog/CDR and probe functions • VOSS Automate integrated with Dashboard • Other Cloud-based services via Collector 	<ul style="list-style-type: none"> • No data redundancy • Smaller user and device sized deployment < 5000 users • Network • Graph API

The image provides a graphical overview of the following example Assurance deployment scenario: 'Standard Non Redundant with Automate Hybrid (Graph API)'

Note: For port details, see [System Connectivity - Port Requirements](#).



1.1.2. Standard Small Full

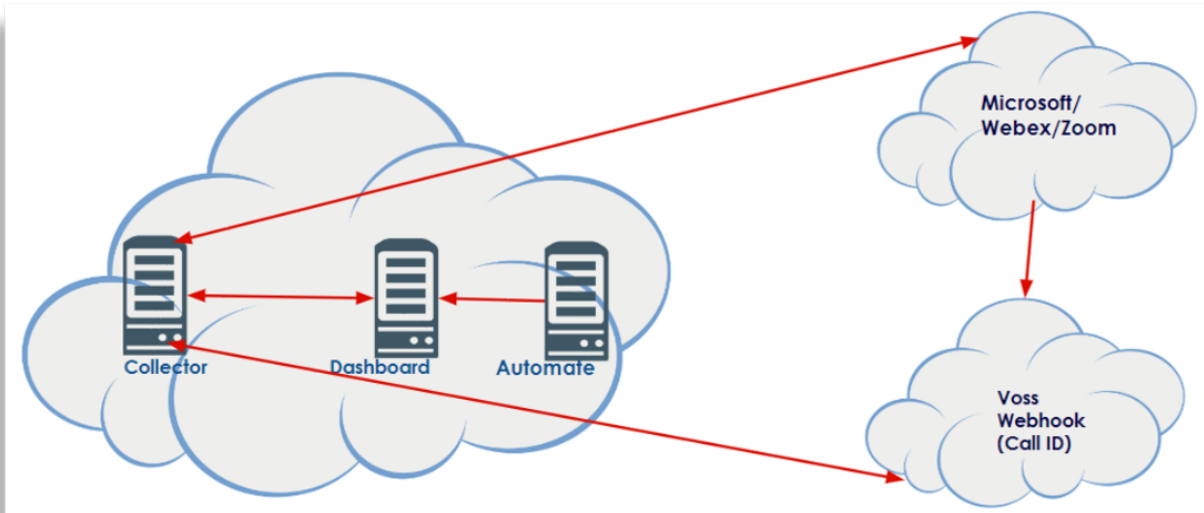
Standard Small Full Customer Cloud Deployment

The table provides a solution description and considerations for the following example Assurance deployment scenario: 'Standard Small Full Customer Cloud Deployment'

Solution	Considerations
<ul style="list-style-type: none"> • Single Collector hosted in Customer cloud • Single Dashboard hosted in Customer Cloud • VOSS Automate in Customer Cloud • No On Premise apps to monitor • VOSS Automate integrated with Dashboard • Other Cloud-based services via Arbitrator 	<ul style="list-style-type: none"> • All monitoring /call records within Cloud • No On Premise • Cloud Provider • Size of use base / call records

The image provides a graphical overview of the following example Assurance deployment scenario: 'Standard Small Full Customer Cloud Deployment'

Note: For port details, see [System Connectivity - Port Requirements](#).



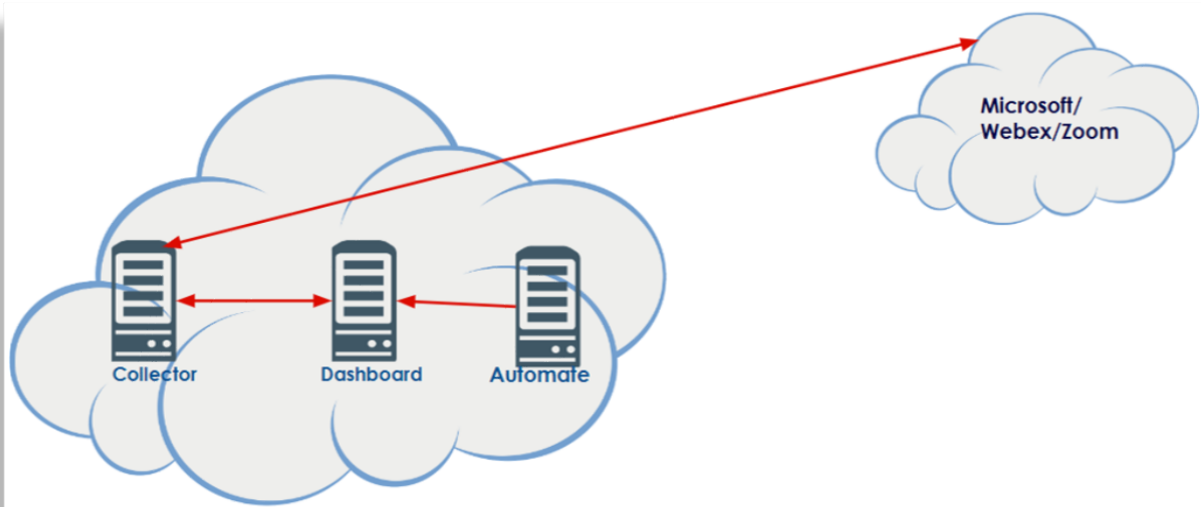
Standard Small Full Customer Cloud Deployment (Graph API)

The table provides a solution description and considerations for the following example Assurance deployment scenario: 'Standard Small Full Customer Cloud Deployment (Graph API)'

Solution	Considerations
<ul style="list-style-type: none"> • Single Collector hosted in Customer cloud • Single Dashboard hosted in Customer Cloud • VOSS Automate in Customer Cloud • No On Premise apps to monitor • VOSS Automate integrated with Dashboard • Other Cloud-based services via Arbitrator 	<ul style="list-style-type: none"> • All monitoring /call records within Cloud • No On Premise • Cloud Provider • Size of use base / call records • Graph API

The image provides a graphical overview of the following example Assurance deployment scenario: 'Standard Small Full Customer Cloud Deployment (Graph API)'

Note: For port details, see [System Connectivity - Port Requirements](#).



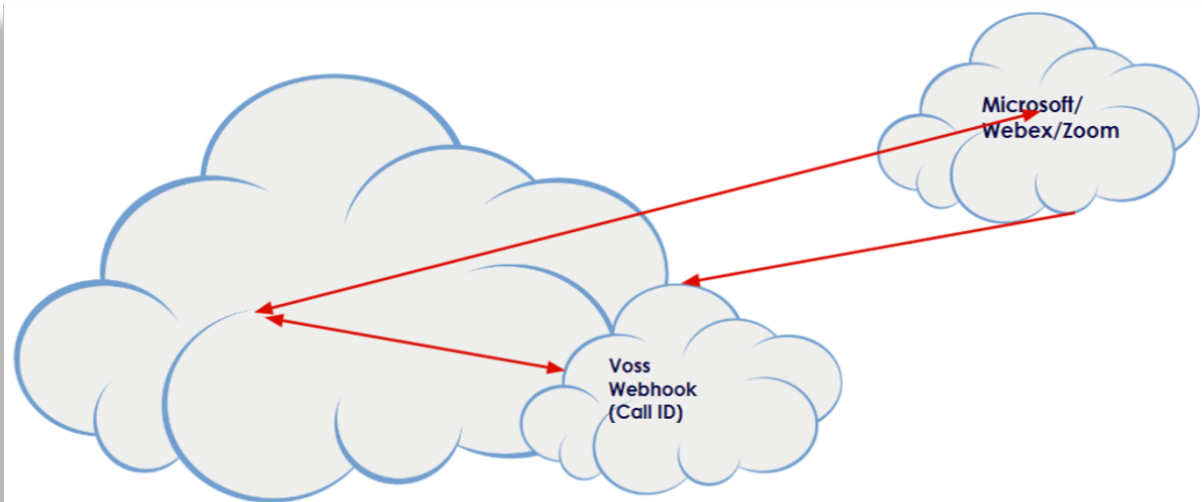
Standard Small Full VOSS Cloud Deployment

The table provides a solution description and considerations for the following example Assurance deployment scenario: 'Standard Small Full VOSS Cloud Deployment'

Solution	Considerations
<ul style="list-style-type: none">• All apps hosted in VOSS Cloud• No On Premise apps to monitor	<ul style="list-style-type: none">• All monitoring /call records within Cloud• No On Premise• Size of use base/call records

The image provides a graphical overview of the following example Assurance deployment scenario: 'Standard Small Full VOSS Cloud Deployment'

Note: For port details, see [System Connectivity - Port Requirements](#).



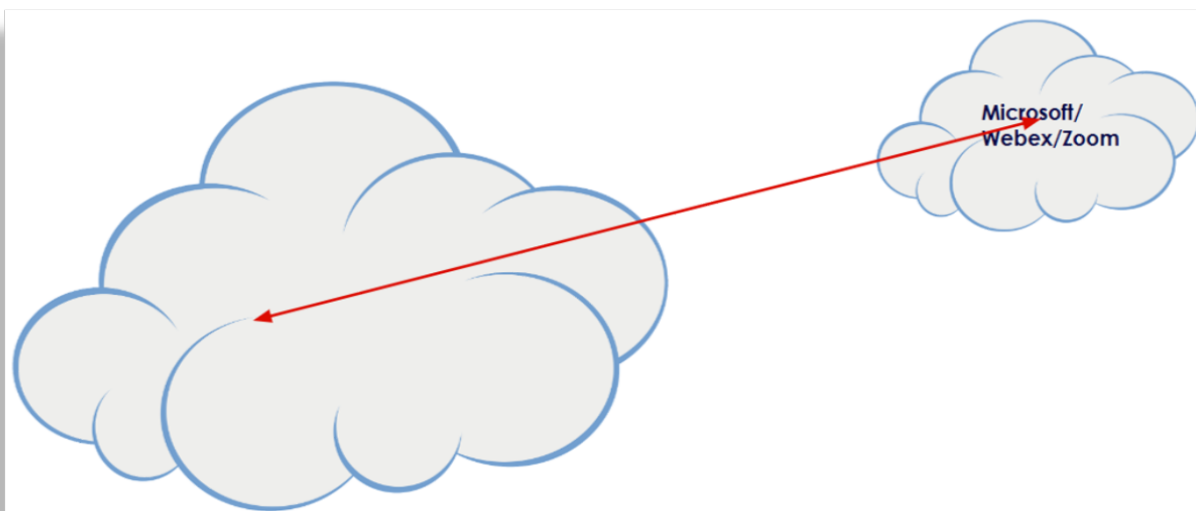
Standard Small Full VOSS Cloud Deployment (Graph API)

The table provides a solution description and considerations for the following example Assurance deployment scenario: 'Standard Small Full VOSS Cloud Deployment (Graph API)'

Solution	Considerations
<ul style="list-style-type: none">• All apps hosted in VOSS Cloud• No On Premise apps to monitor	<ul style="list-style-type: none">• All monitoring /call records within Cloud• No On Premise• Size of use base/call records• Graph API

The image provides a graphical overview of the following example Assurance deployment scenario: 'Standard Small Full VOSS Cloud Deployment (Graph API)'

Note: For port details, see [System Connectivity - Port Requirements](#).



1.1.3. Standard Split Roles with Automate

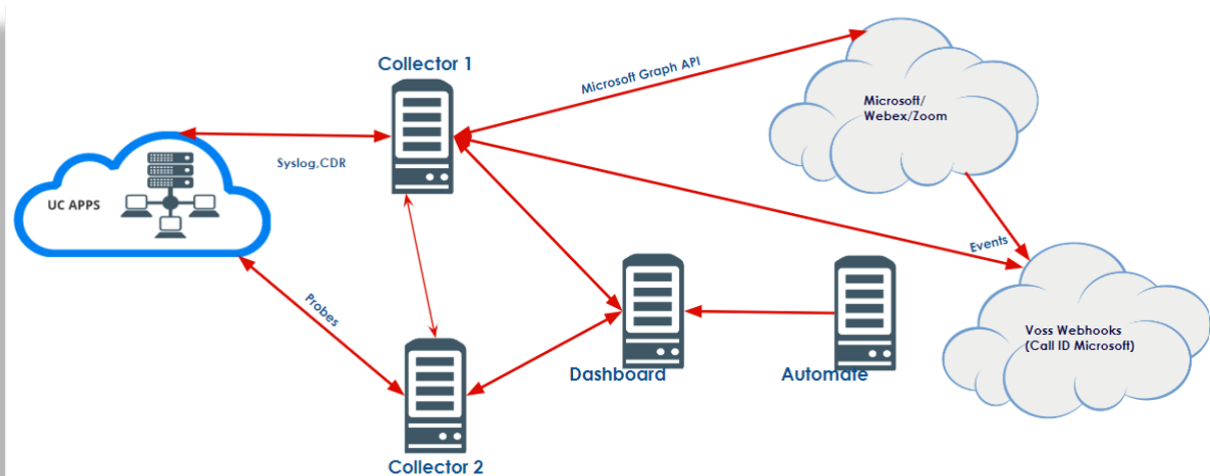
Standard Split Roles with Automate

The table provides a solution description and considerations for the following example Assurance deployment scenario: 'Standard Split Roles with Automate'

Solution	Considerations
<ul style="list-style-type: none"> • Dual Collectors • Single Dashboard • VOSS Automate • Collector 1 carries out syslog/CDR functions • Collector 2 carries out probe functions • VOSS Automate integrated with Dashboard • Other Cloud-based services via Arbitrator 	<ul style="list-style-type: none"> • Dual Collector management • Limited data redundancy is available • Collectors Dashboard, etc., hosted On Premise • Ability to Air Gap if required • Roles split - due to size of estate, amount of calls, etc. • Collectors can be split over 2 Data centers

The image provides a graphical overview of the following example Assurance deployment scenario: 'Standard Split Roles with Automate'

Note: For port details, see [System Connectivity - Port Requirements](#).



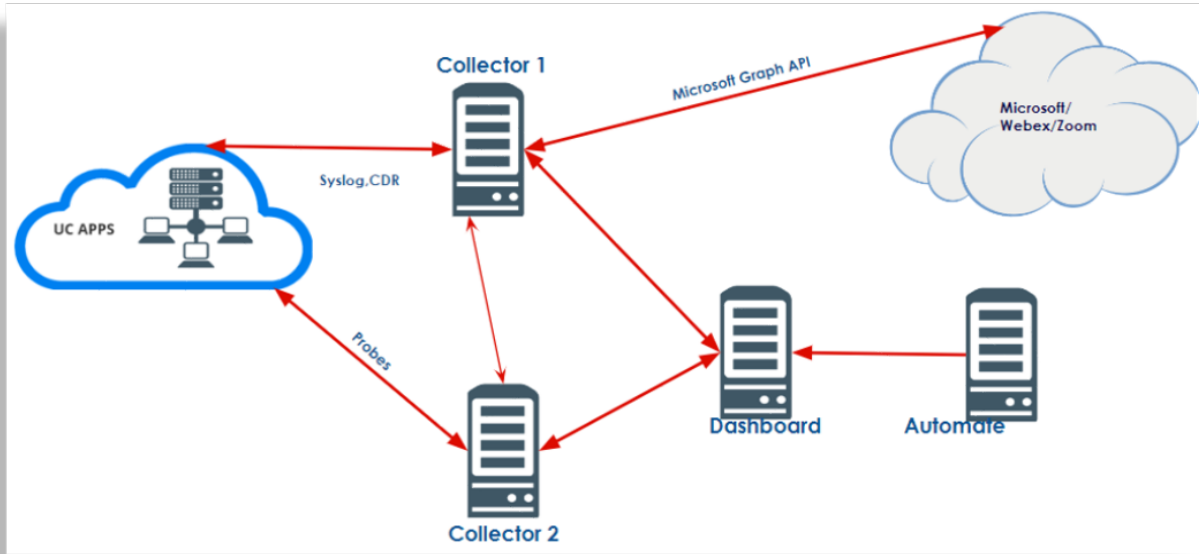
Standard Split Roles with Automate (Graph API)

The table provides a solution description and considerations for the following example Assurance deployment scenario: 'Standard Split Roles with Automate (Graph API)'

Solution	Considerations
<ul style="list-style-type: none"> Dual Collectors Single Dashboard VOSS Automate Collector 1 carries out syslog/CDR functions Collector 2 carries out probe functions VOSS Automate integrated with Dashboard Other Cloud-based services via Arbitrator 	<ul style="list-style-type: none"> Dual Collector management Limited data redundancy is available Collectors Dashboard, etc., hosted On Premise Ability to Air Gap if required Roles split - due to size of estate, amount of calls, etc. Collectors can be split over 2 Data centers Graph API

The image provides a graphical overview of the following example Assurance deployment scenario: 'Standard Split Roles with Automate (Graph API)'

Note: For port details, see [System Connectivity - Port Requirements](#).



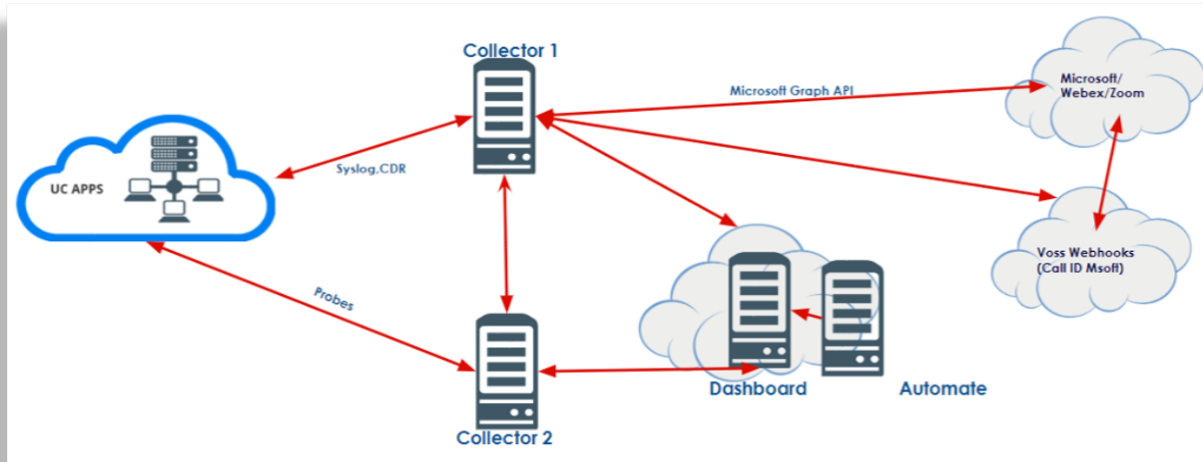
Standard Split Roles with Automate Hybrid

The table provides a solution description and considerations for the following example Assurance deployment scenario: 'Standard Split Roles with Automate Hybrid'

Solution	Considerations
<ul style="list-style-type: none"> Dual Collectors Single Dashboard hosted in Customer / VOSS Cloud VOSS Automate Collector 1 carries out syslog/CDR functions Collector 2 carries out probe functions VOSS Automate integrated with Dashboard Other Cloud-based services via Arbitrator 	<ul style="list-style-type: none"> Dual Collectors management Limited data redundancy is available Collectors hosted On Premise Roles split - due to size of estate, amount of calls, etc. Collectors can be split over 2 Data centers

The image provides a graphical overview of the following example Assurance deployment scenario: 'Standard Split Roles with Automate Hybrid'

Note: For port details, see [System Connectivity - Port Requirements](#).



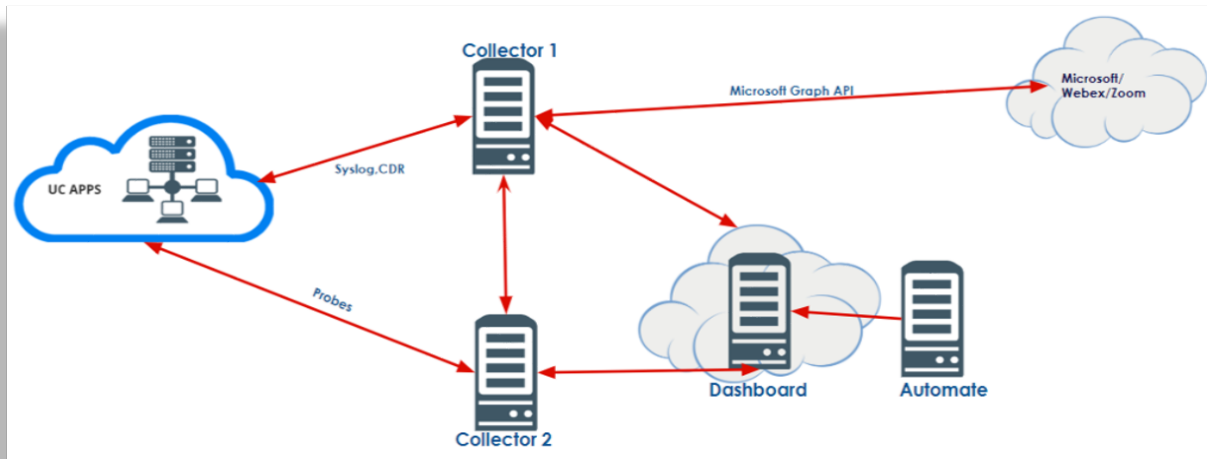
Standard Split Roles with Automate Hybrid (Graph API)

The table provides a solution description and considerations for the following example Assurance deployment scenario: 'Standard Split Roles with Automate Hybrid (Graph API)'

Solution	Considerations
<ul style="list-style-type: none"> Dual Collectors Single Dashboard hosted in Customer / VOSS Cloud VOSS Automate Collector 1 carries out syslog/CDR functions Collector 2 carries out probe functions VOSS Automate integrated with Dashboard Other Cloud-based services via Arbitrator 	<ul style="list-style-type: none"> Dual Collectors management Limited data redundancy is available Collectors hosted On Premise Roles split - due to size of estate, amount of calls, etc. Collectors can be split over 2 Data centres Graph API

The image provides a graphical overview of the following example Assurance deployment scenario: 'Standard Split Roles with Automate Hybrid (Graph API)'

Note: For port details, see [System Connectivity - Port Requirements](#).



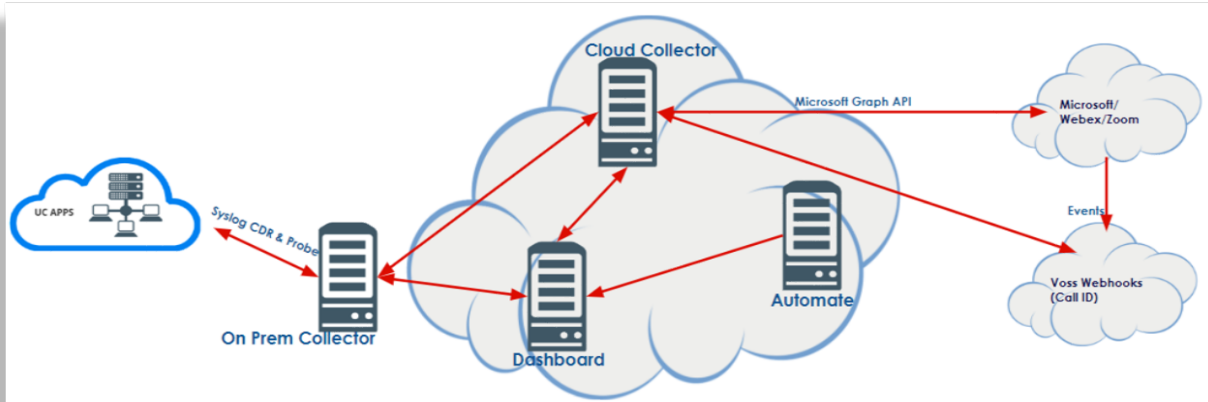
Standard Split Roles with Automate Insights Cloud

The table provides a solution description and considerations for the following example Assurance deployment scenario: 'Standard Split Roles with Automate Insights Cloud'

Solution	Considerations
<ul style="list-style-type: none"> Dual Collectors 1 hosted in Customer / VOSS Cloud 1 On Premise Single Dashboard hosted in Customer / VOSS Cloud VOSS Automate hosted in Customer / VOSS Cloud Collector 1 On Premise carries out sys-log/CDR and probe functions Collector 2 carries out Web (Msoft / Zoom, etc.) functions VOSS Automate integrated with Dashboard 	<ul style="list-style-type: none"> Dual Collectors management Single Dashboard hosted in Customer / VOSS Cloud VOSS Automate hosted in Customer / VOSS Cloud Some data redundancy is available Designed for On Premise apps and larger Cloud apps

The image provides a graphical overview of the following example Assurance deployment scenario: 'Standard Split Roles with Automate Insights Cloud'

Note: For port details, see [System Connectivity - Port Requirements](#).



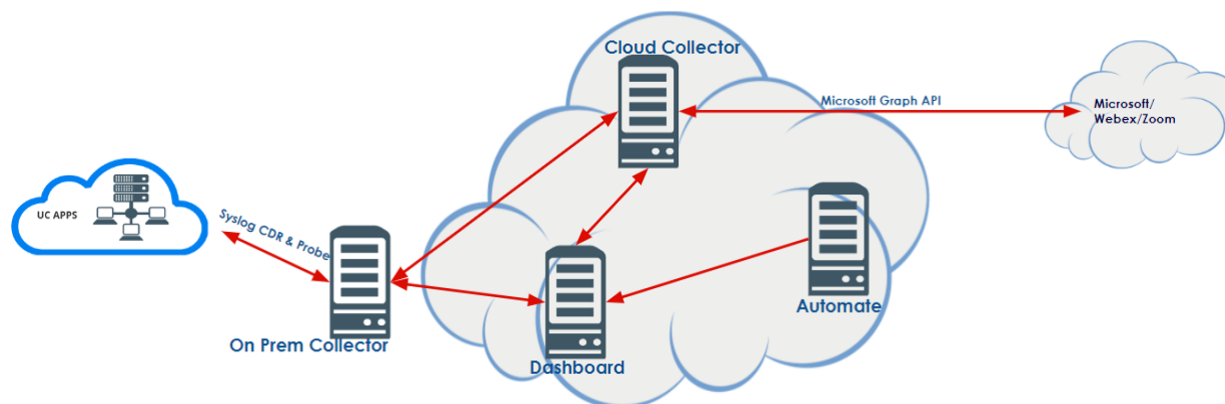
Standard Split Roles with Automate Insights Cloud (Graph API)

The table provides a solution description and considerations for the following example Assurance deployment scenario: 'Standard Split Roles with Automate Insights Cloud (Graph API)'

Solution	Considerations
<ul style="list-style-type: none"> Dual Collectors 1 hosted in Customer / VOSS Cloud 1 On Premise Single Dashboard hosted in Customer / VOSS Cloud VOSS Automate hosted in Customer / VOSS Cloud Collector 1 On Premise carries out sys-log/CDR and probe functions Collector 2 carries out Web (Msoft / Zoom etc) functions VOSS Automate integrated with Dashboard 	<ul style="list-style-type: none"> Dual Collectors management Single Dashboard hosted in Customer / VOSS Cloud VOSS Automate hosted in Customer / VOSS Cloud Some data redundancy is available Designed for On Premise apps and larger Cloud Apps Graph API

The image provides a graphical overview of the following example Assurance deployment scenario: 'Standard Split Roles with Automate Insights Cloud (Graph API)'

Note: For port details, see [System Connectivity - Port Requirements](#).



1.1.4. Dual DC Active/Active with Split Roles

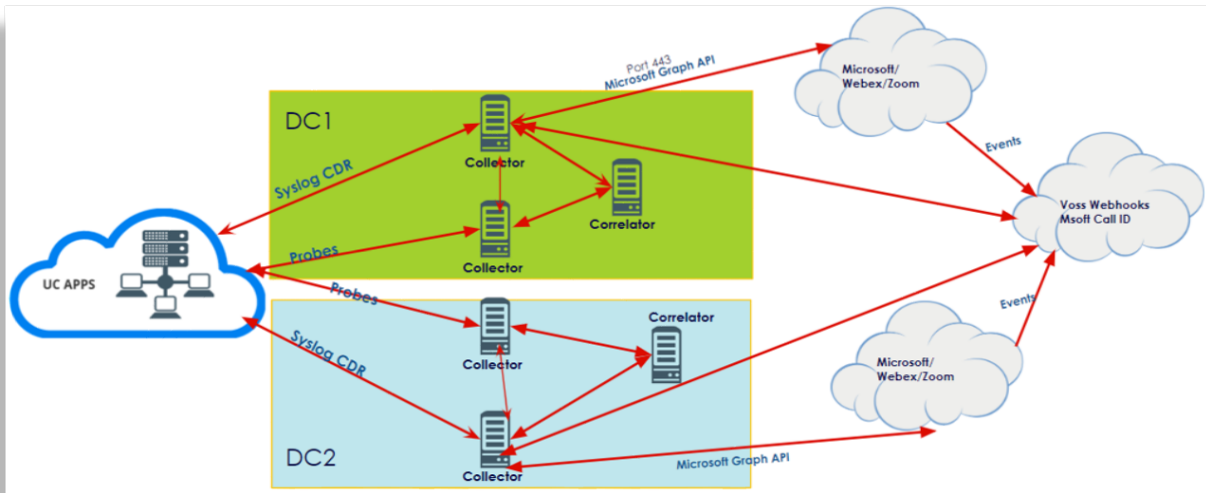
Dual DC Active/Active with Split Roles Collection and Consolidation

The table provides a solution description and considerations for the following example Assurance deployment scenario: 'Dual DC Active/Active with Split Roles Collection and Consolidation'

Solution	Considerations
<ul style="list-style-type: none"> • Data Redundancy • Multiple Collectors • Collector roles are split in both DCs • Correlation of CDR alerts and probes per DC • Cloud-based services can be configured on multiple Collectors • One consolidator per pair of Collectors 	<ul style="list-style-type: none"> • Multiple Collector management (no clustering) • Roles split based on load from syslog probes and call details • Multi Geo Location • Sizing of user base /device base • Single or dual dashboards can be added for visualization

The image provides a graphical overview of the following example Assurance deployment scenario: 'Dual DC Active/Active with Split Roles Collection and Consolidation'

Note: For port details, see [System Connectivity - Port Requirements](#).



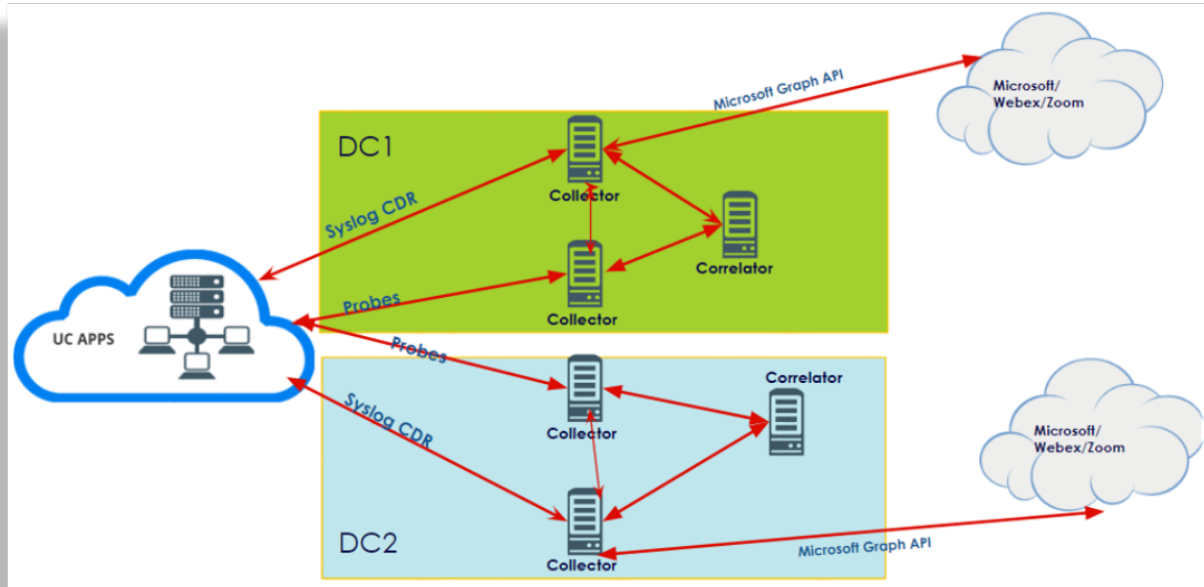
Dual DC Active/Active with Split Roles Collection and Consolidation (Graph API)

The table provides a solution description and considerations for the following example Assurance deployment scenario: 'Dual DC Active/Active with Split Roles Collection and Consolidation (Graph API)'

Solution	Considerations
<ul style="list-style-type: none"> • Data redundancy • Multiple Collectors • Collector roles are split in both DCs • Correlation of CDR alerts and probes per DC • Cloud-based services can be configured on multiple Collectors • One consolidator per pair of Collectors 	<ul style="list-style-type: none"> • Multiple collector management (no clustering) • Roles split based on load from syslog Probes and Call Details • Multi Geo Location • Sizing of user base / device base • Single or dual dashboards can be added for visualization • Graph API

The image provides a graphical overview of the following example Assurance deployment scenario: 'Dual DC Active/Active With Split Roles Collection & Consolidation (Graph API)'

Note: For port details, see [System Connectivity - Port Requirements](#).



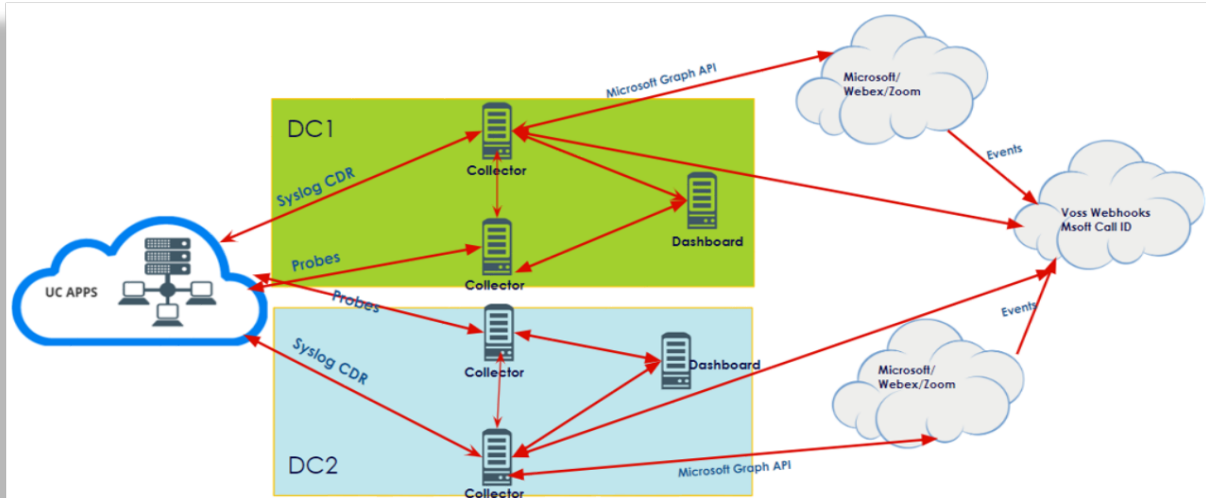
Dual DC Active/Active with Split Roles Collection and No Consolidation

The table provides a solution description and considerations for the following example Assurance deployment scenario: 'Dual DC Active/Active with Split Roles Collection and No Consolidation'

Solution	Considerations
<ul style="list-style-type: none"> • Data redundancy • Multiple Collectors • Collector roles are split in both DCs • Cloud-based services can be configured on multiple Collectors 	<ul style="list-style-type: none"> • Multiple collector management (no clustering) • Roles split based on load from syslog probes and call details • Multi Geo Location • Sizing of user base / device base

The image provides a graphical overview of the following example Assurance deployment scenario: 'Dual DC Active/Active with Split Roles Collection and No Consolidation'

Note: For port details, see [System Connectivity - Port Requirements](#).



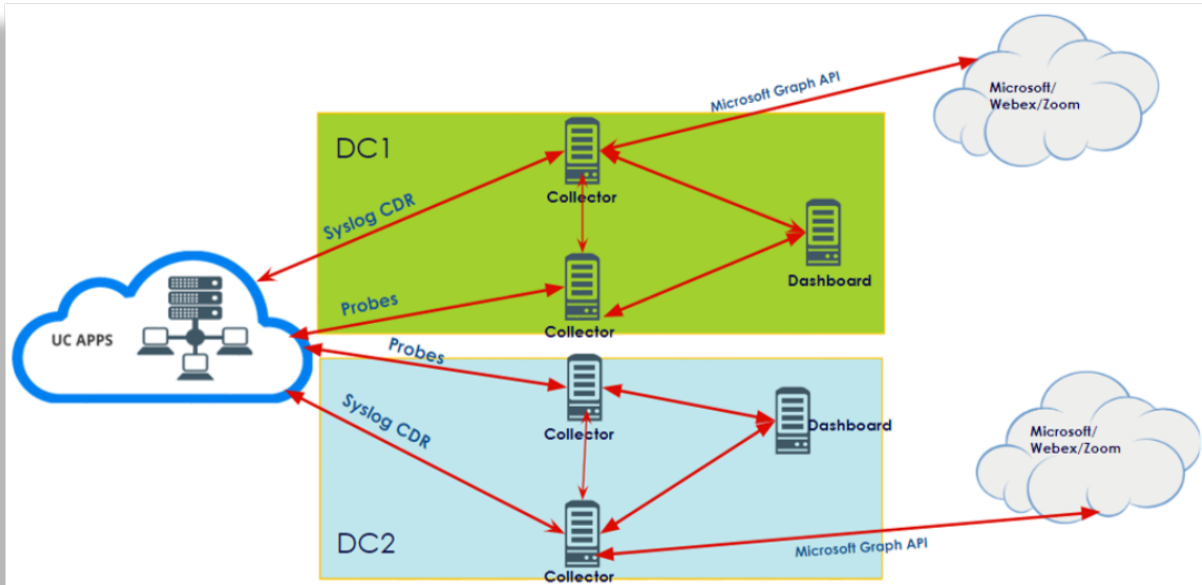
Dual DC Active/Active with Split Roles Collection and No Consolidation (Graph API)

The table provides a solution description and considerations for the following example Assurance deployment scenario: 'Dual DC Active/Active with Split Roles Collection and No Consolidation (Graph API)'

Solution	Considerations
<ul style="list-style-type: none"> • Data redundancy • Multiple Collectors • Collector roles are split in both DCs • Cloud-based services can be configured on multiple Collectors 	<ul style="list-style-type: none"> • Multiple collector management (no clustering) • Roles split based on load from syslog probes and call details • Multi Geo Location • Sizing of user base / device base • Graph API

The image provides a graphical overview of the following example Assurance deployment scenario: 'Dual DC Active/Active with Split Roles Collection and No Consolidation (Graph API)'

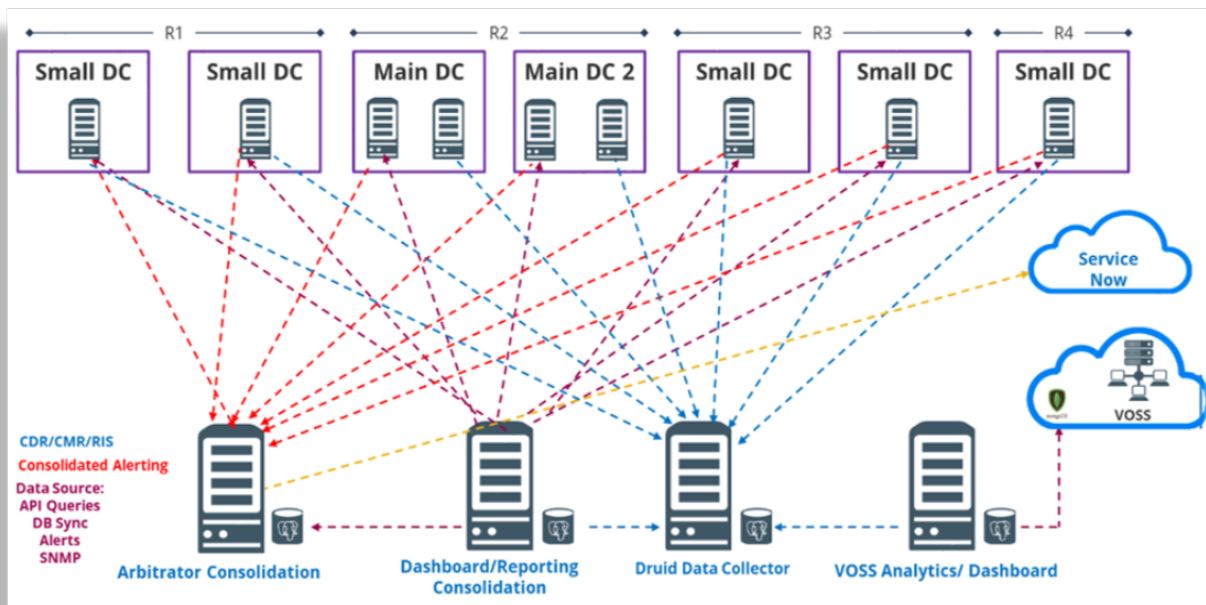
Note: For port details, see [System Connectivity - Port Requirements](#).



1.1.5. Mega Deployment

The image provides a graphical overview of the following example Assurance deployment scenario: 'Mega Deployment'

Note: For port details, see *System Connectivity - Port Requirements*.



2. Ports

2.1. System Connectivity - Port Requirements

UC Monitoring System Connectivity – Port Requirements			
Source	Destination	Port / protocol	Notes
Monitored UC system	Correlation Server / Dashboard Server	514 tcp/udp, 22 tcp, 162 udp	syslog, snmp trap, CDR/CMR file transfer
Correlation Server	Monitored UC system	443 tcp, 8443 tcp, 22 tcp, 21 tcp, 161 udp	Correlation server AXL query, ssh and snmp query
Correlation Server / Dashboard Server	Correlation Server / Dashboard Server	5432, 5433, 5000, 60514, 64514, 64515, 65515, 65516, 64005, 64004, 62009, 62010 (all TCP)	Note: Intra-system communication and queries – Bi-directional
Correlation Server	Correlation Server	62002, 62003, 62004, 62005, 62006, 11501, 30501, 30503, 40501, 40503 (all TCP)	Note: Fabric TLS tunnel Connection Ports – Bi-directional between Customer systems and NOC systems for event forwarding
Correlation Server / Dashboard Server	Network Resources (NTP, DNS)	53, 123 UDP	Time and DNS
Client PC – GUI Interface and CLI Management Access	Correlation Server / Dashboard Server	443, 8443, 22, 80 TCP	User Interface Access
V4UC	Dashboard Server	27020	Database access
Correlation Server / Dashboard Server	AD	389 636 TCP UDP	Authentication
MS Teams	Arbitrator	443 tcp	GRAPH API
Arbitrator	Dashboard Server	443 tcp	GRAPH API

