



BVMS 12.0 BLUEPRINTS

Updated: Mar 2023

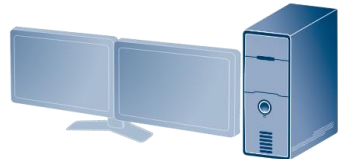
BVMS Blueprints

Different key components

- ❖ BLACK = 100Mbit/s
- ❖ BLUE = 1Gbit/s
- ❖ GREEN = 1Gbit/s - 10Gbit/s



- ✓ Licensing
- ✓ User Authorizations
- ✓ System logging (SQL)
- ✓ Alarm management
- ✓ Configuration management



Operator client



Monitor Wall



Mobile Video Service



VRM Server



DIVAR IP AIO



DSA E-series



Video Streaming Gateway

- ✓ SW DYNAMIC TRANSCODING
- ✓ WEB BROWSER CONNECTION
- ✓ Max of 20 CONNECTIONS / MVS
- ✓ Max 5 x MVS / BVMS Server

- ✓ RECORDING MANAGEMENT
- ✓ 2000 CAMERAS
- ✓ 2 MILLION OF 1Gbit/s BLOCKS
- ✓ STORAGE VIRTUALIZATION

- ✓ VRM
- ✓ VSG
- ✓ iSCSI
- ✓ HW DYNAMIC TRANSCODING

- ✓ iSCSI only
- ✓ HIGH DENSITY
- ✓ 1050 MB WRITE
- ✓ 200 Mb READ

- ✓ ONVIF CAMERAS
- ✓ H264 via RTSP
- ✓ JPEG via HTTP
- ✓ 32 CHANNELS / VSG

BVMS

Lite, Plus, Professional

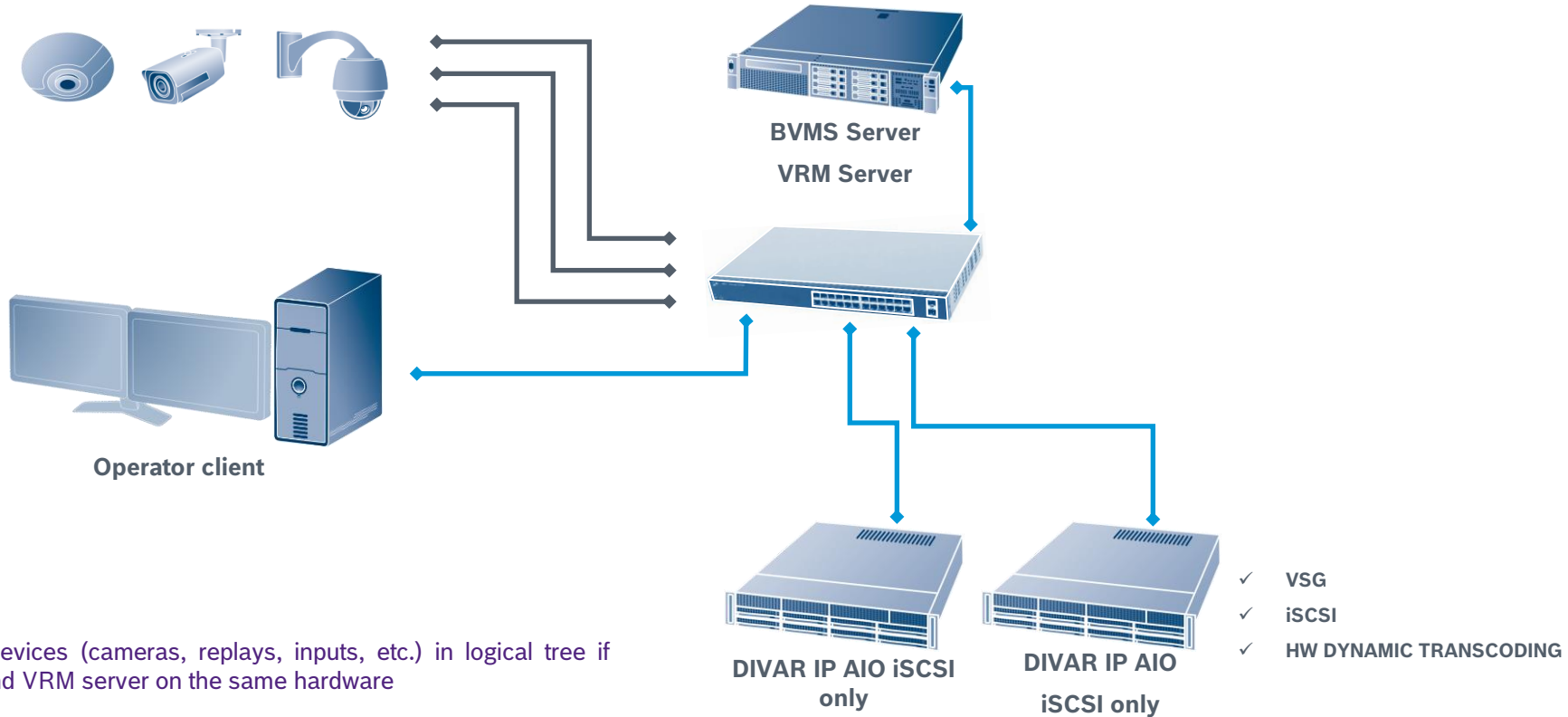
BVMS Blueprints

BVMS all in one

Cameras
500*
max

CLIENTS
10
max

- ❖ BLACK = 100Mbit/s
- ❖ BLUE = 1Gbit/s
- ❖ GREEN = 1Gbit/s - 10Gbit/s



* Max 500 devices (cameras, replays, inputs, etc.) in logical tree if BVMS MS and VRM server on the same hardware

BVMS Blueprints

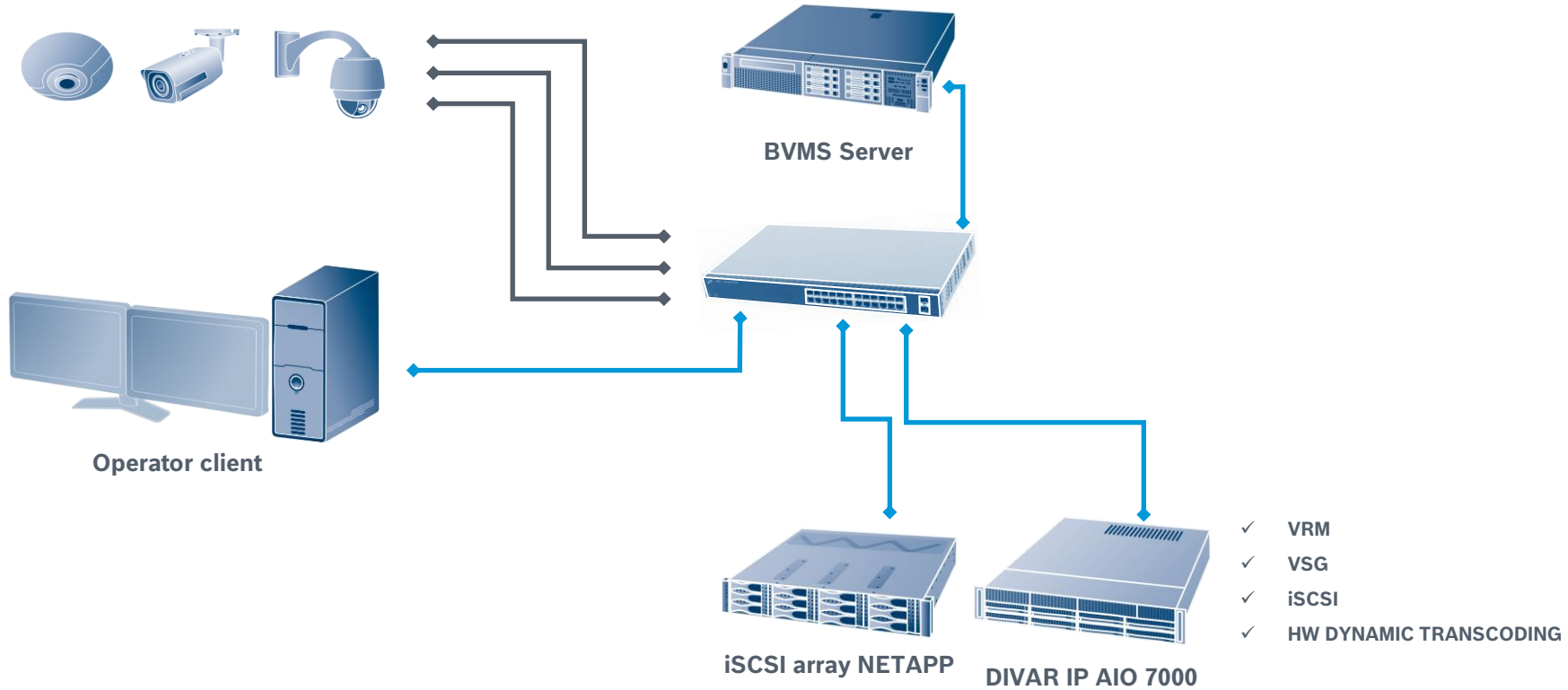
Embedded VRM's

CAMERAS
2000
max

CLIENTS
100
max

VRM
125
max

- ❖ BLACK = 100Mbit/s
- ❖ BLUE = 1Gbit/s
- ❖ GREEN = 1Gbit/s - 10Gbit/s



BVMS Blueprints

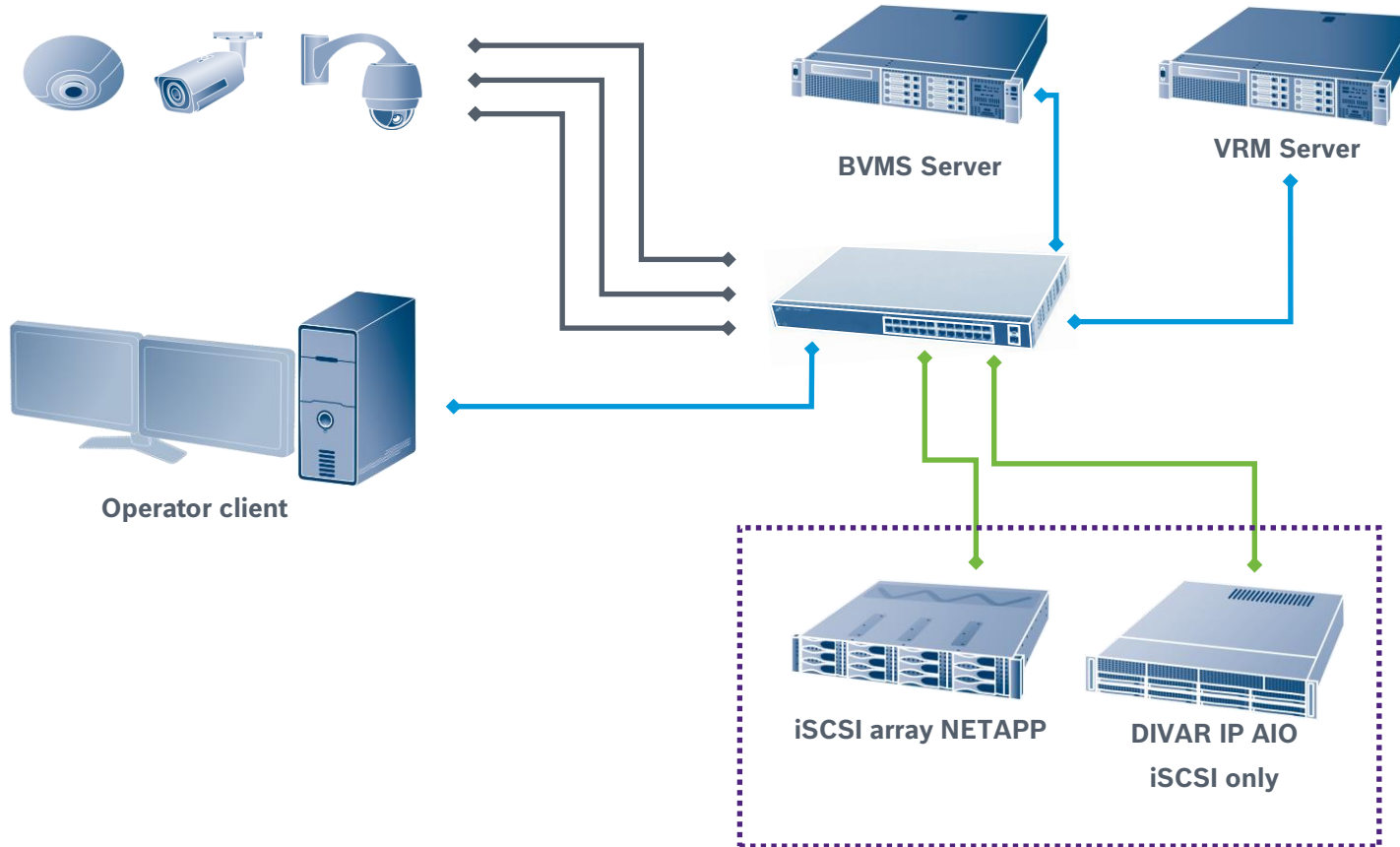
Dedicated VRM

CAMERAS
2000
max

CLIENTS
100
max

VRM
125
max

- ❖ BLACK = 100Mbit/s
- ❖ BLUE = 1Gbit/s
- ❖ GREEN = 1Gbit/s - 10Gbit/s



BVMS Blueprints

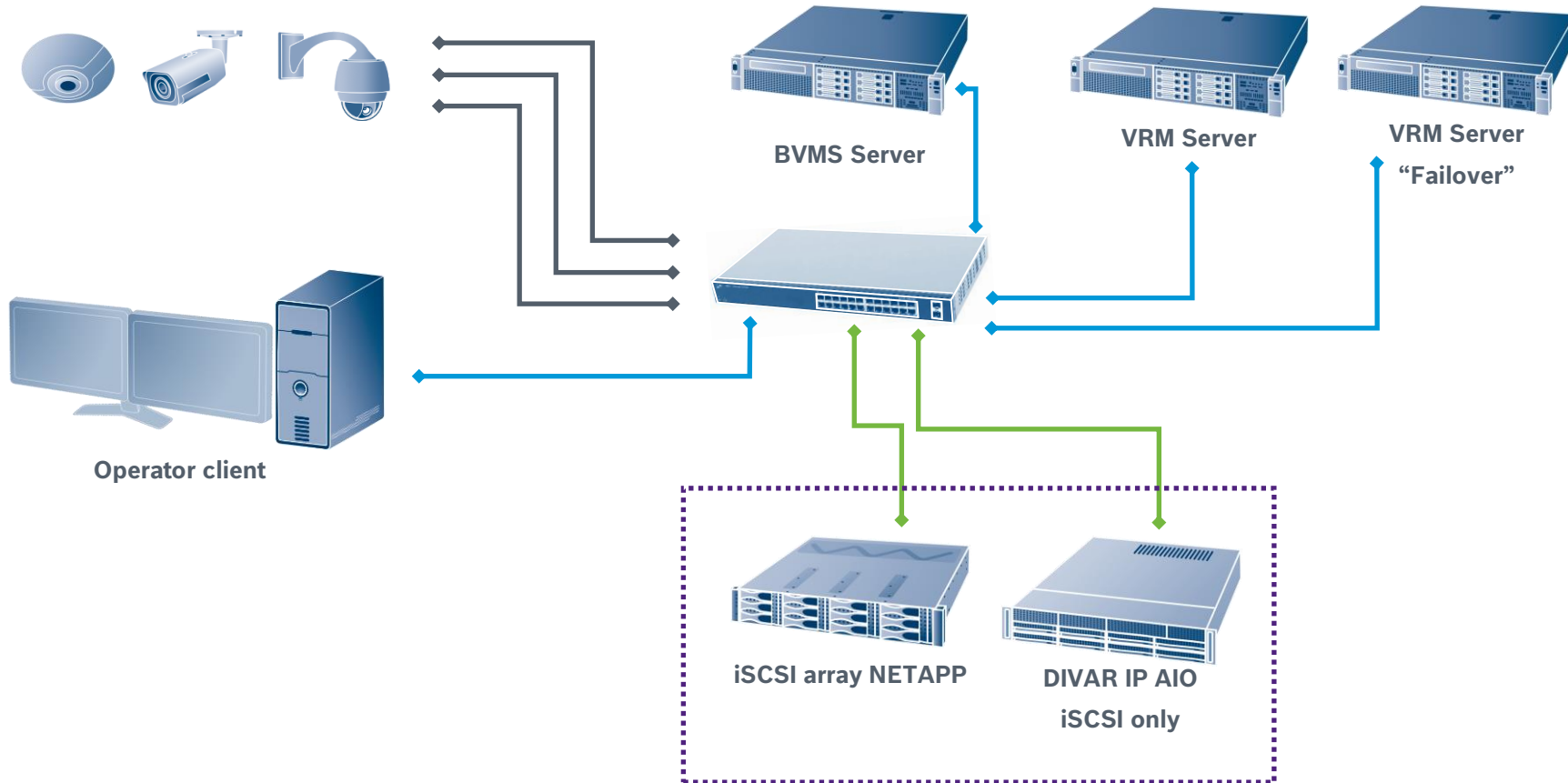
Dedicated VRM & Failover

CAMERAS
2000
max

CLIENTS
100
max

VRM
125
max

- ❖ BLACK = 100Mbit/s
- ❖ BLUE = 1Gbit/s
- ❖ GREEN = 1Gbit/s - 10Gbit/s

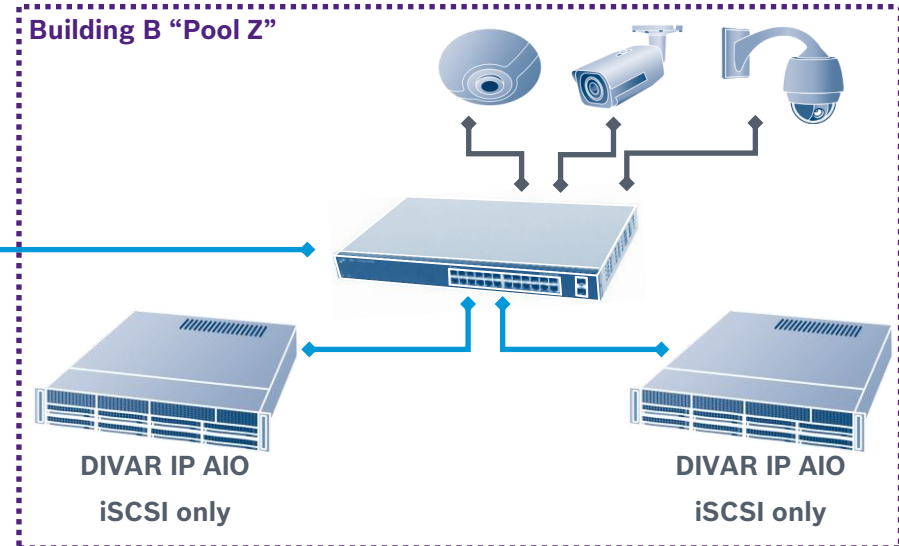
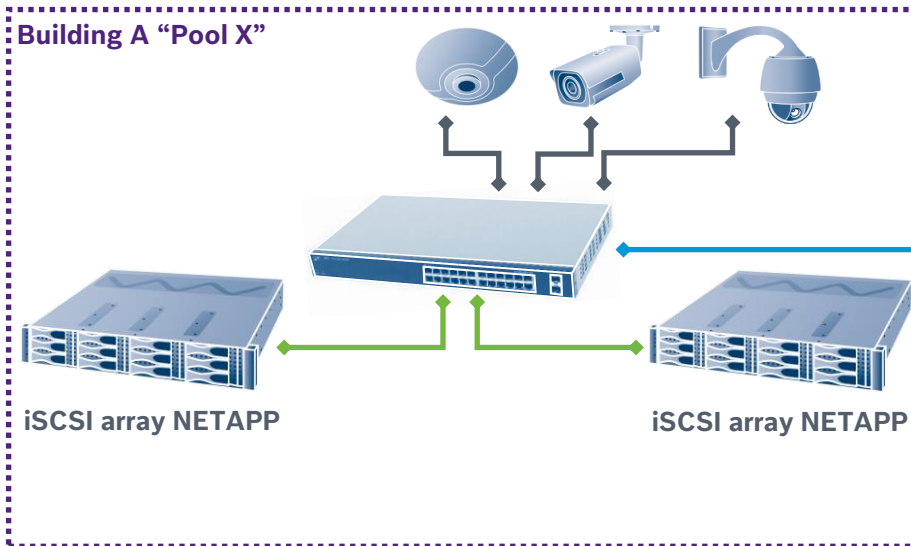
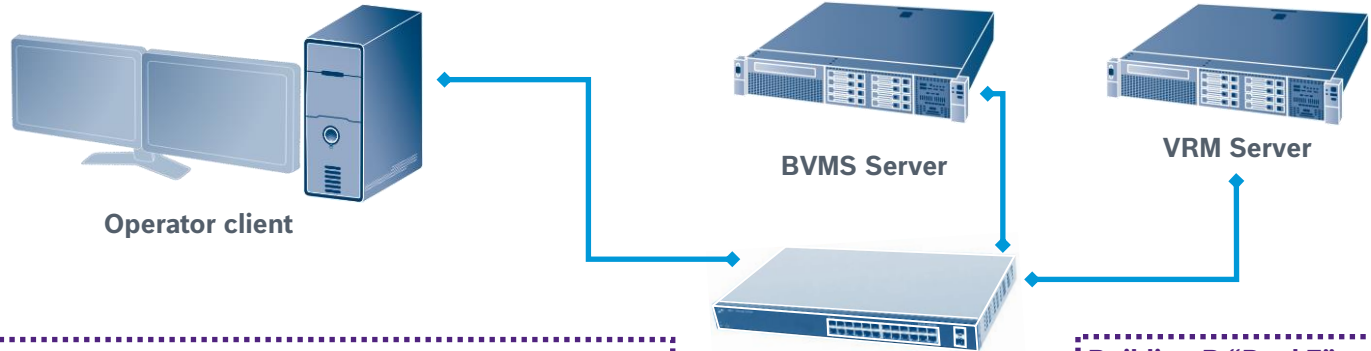


BVMS Blueprints

Distributed storage

CAMERAS 2000 max	CLIENTS 100 max	VRM 125 max	POOL 120/VRM max
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- ❖ BLACK = 100Mbit/s
- ❖ BLUE = 1Gbit/s
- ❖ GREEN = 1Gbit/s - 10Gbit/s



BVMS Blueprints

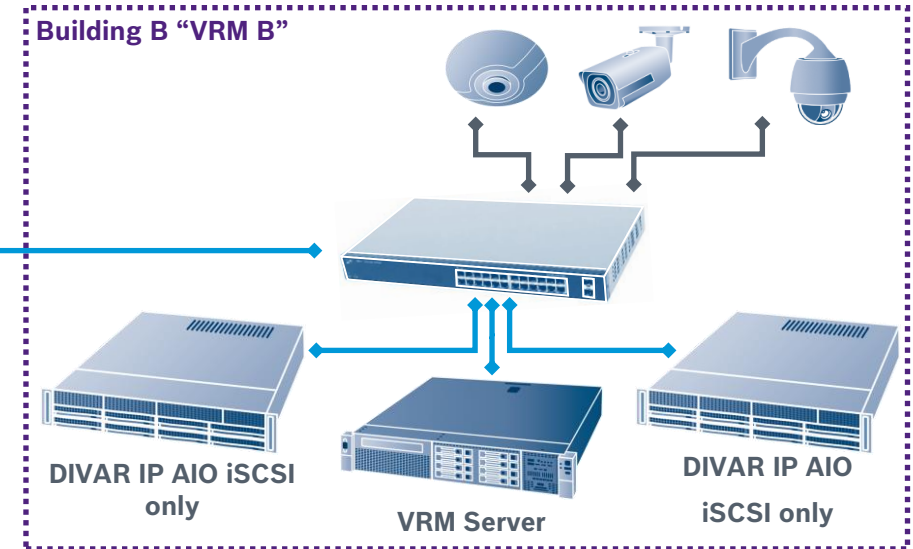
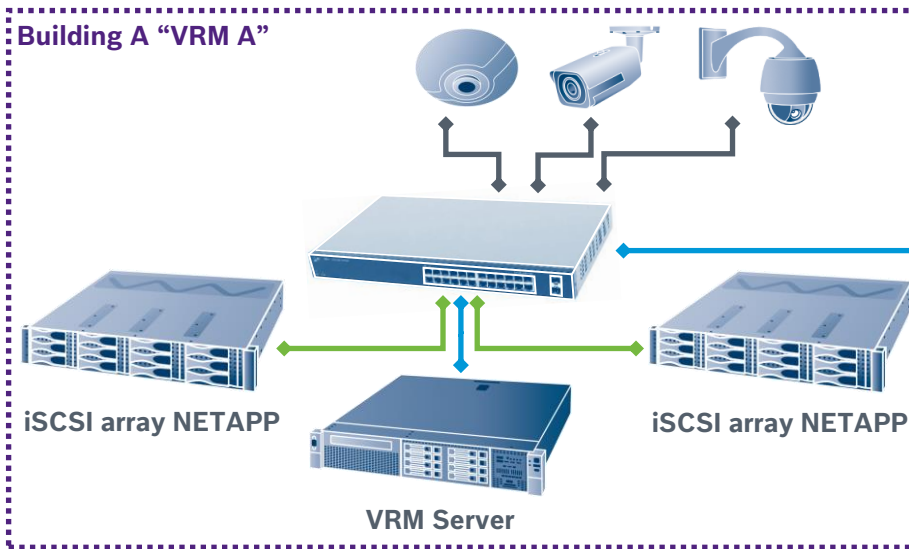
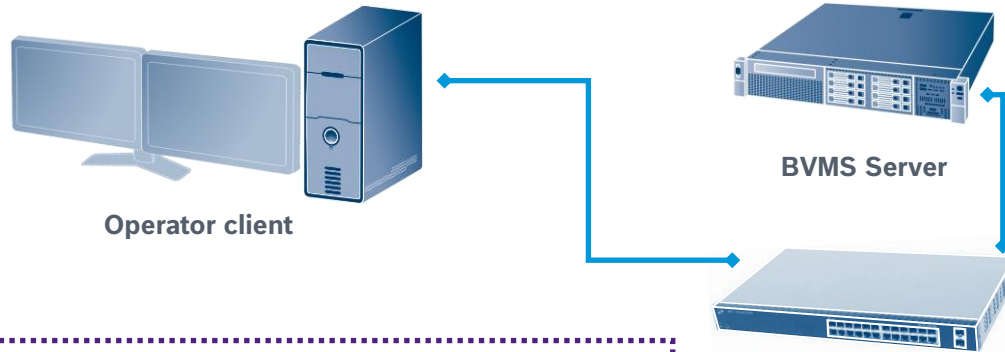
Distributed VRM's

CAMERAS
2000
max

CLIENTS
100
max

VRM
125
max

- ❖ BLACK = 100Mbit/s
- ❖ BLUE = 1Gbit/s
- ❖ GREEN = 1Gbit/s - 10Gbit/s



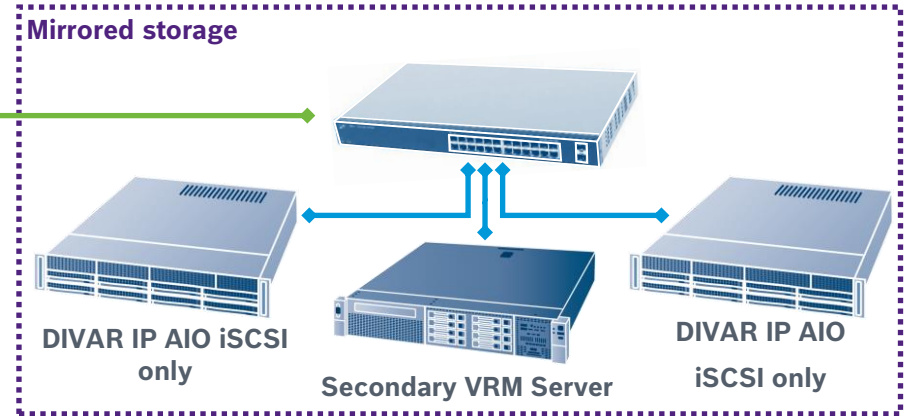
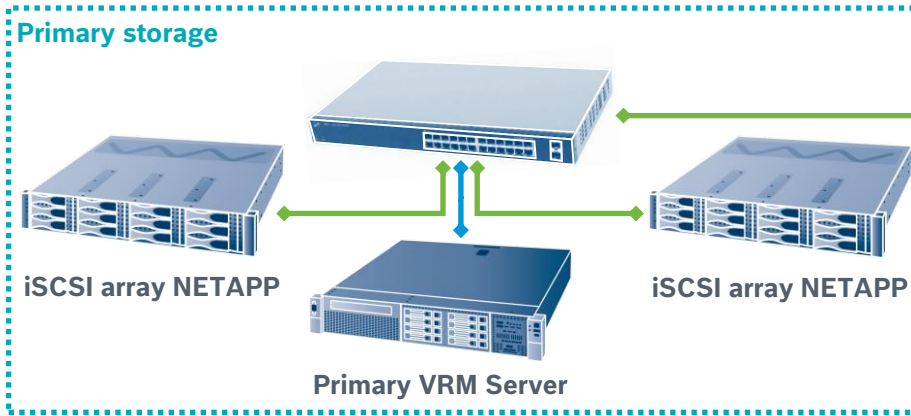
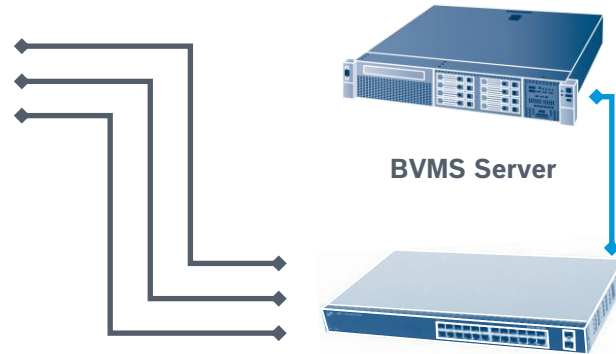
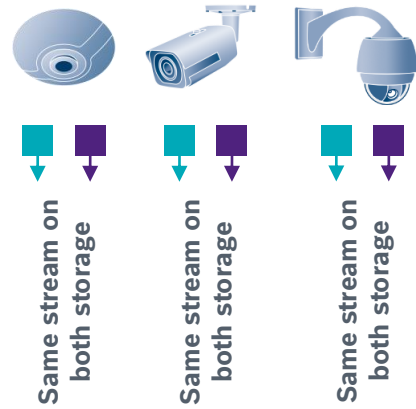
BVMS Blueprints

Mirrored recording

CAMERAS
2000
max

CLIENTS
100
max

- ❖ BLACK = 100Mbit/s
- ❖ BLUE = 1Gbit/s
- ❖ GREEN = 1Gbit/s - 10Gbit/s



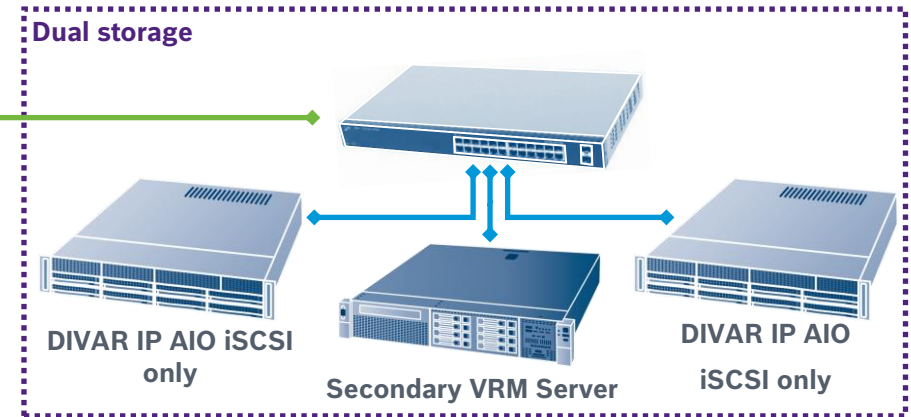
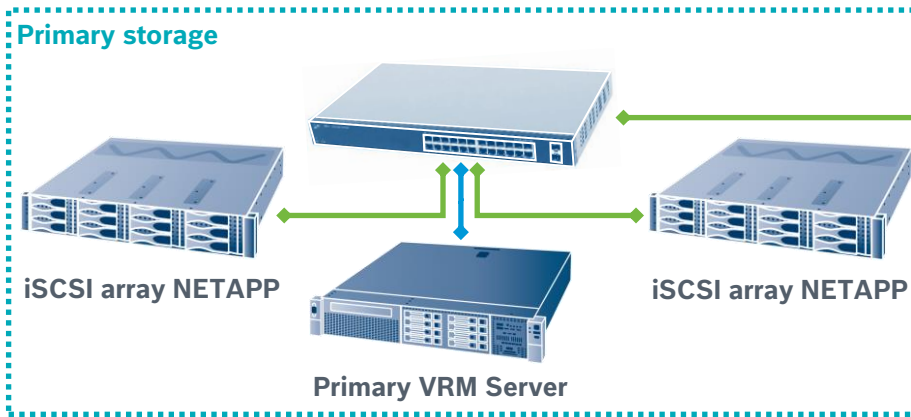
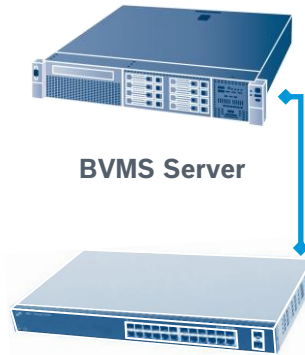
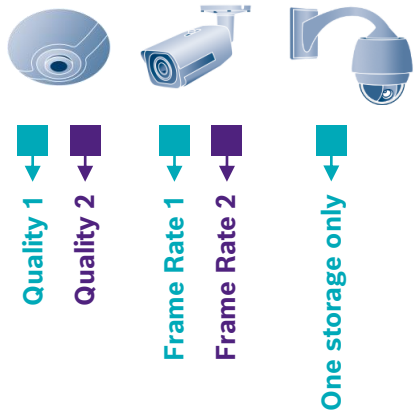
BVMS Blueprints

Dual recording

CAMERAS
2000
max

CLIENTS
100
max

- ❖ BLACK = 100Mbit/s
- ❖ BLUE = 1Gbit/s
- ❖ GREEN = 1Gbit/s - 10Gbit/s



SCALABILITY

BVMS Blueprints

Enterprise environment – Multi-servers

CAMERAS 10.000 max	CLIENTS 100 max	SUBSYSTEMS 100 max
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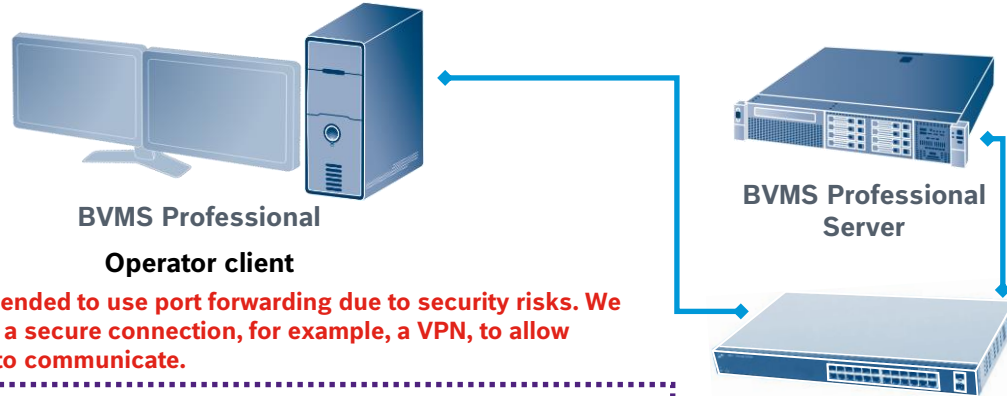
- ❖ BLACK = 100Mbit/s
- ❖ BLUE = 1Gbit/s
- ❖ GREEN = 1Gbit/s - 10Gbit/s

Up to 2.000 cameras per subsystem.

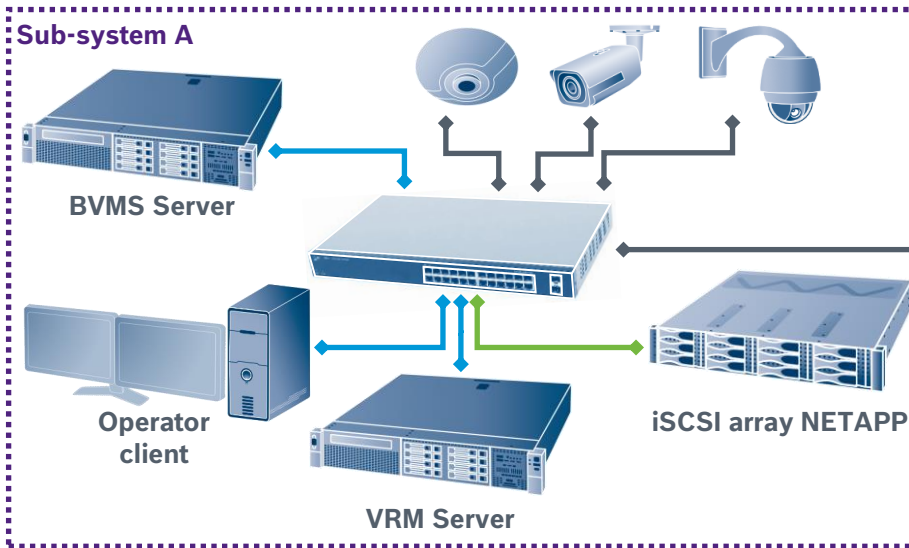
Up to 10.000 cameras per user-group.

Up to 200.000 cameras per environment, spread over 20 user-groups.

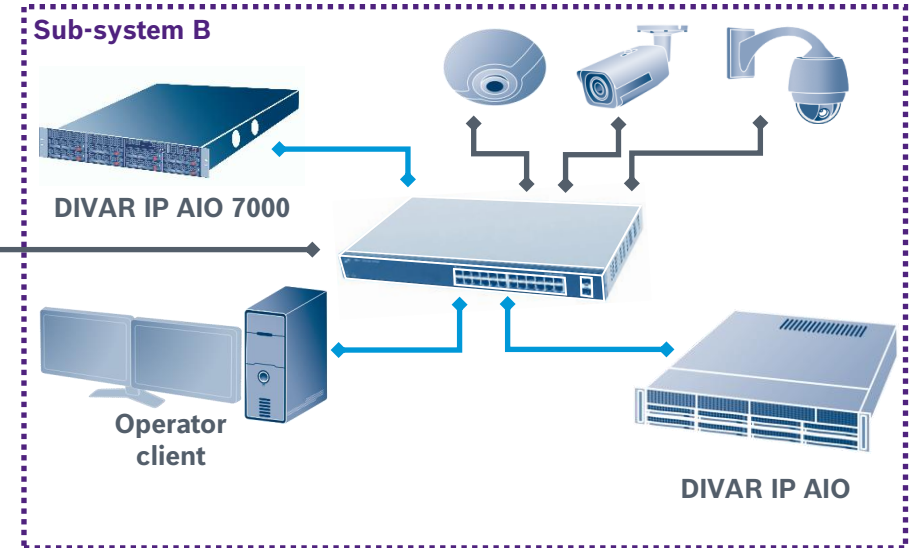
Subsystems: BVMS (Lite, Plus, Professional), DIVAR IP3000, 7000, DIVAR IP AIO 5000, 7000



We do not recommend to use port forwarding due to security risks. We recommend to use a secure connection, for example, a VPN, to allow multiple locations to communicate.



Minimum speed: 10Mbit/s.
Recommended speed: 100Mbit/s
(network speed has an impact on the start-up time of the enterprise operator client and the number of video streams that can be displayed).



BVMS Blueprints

Enterprise – BVMS Plus

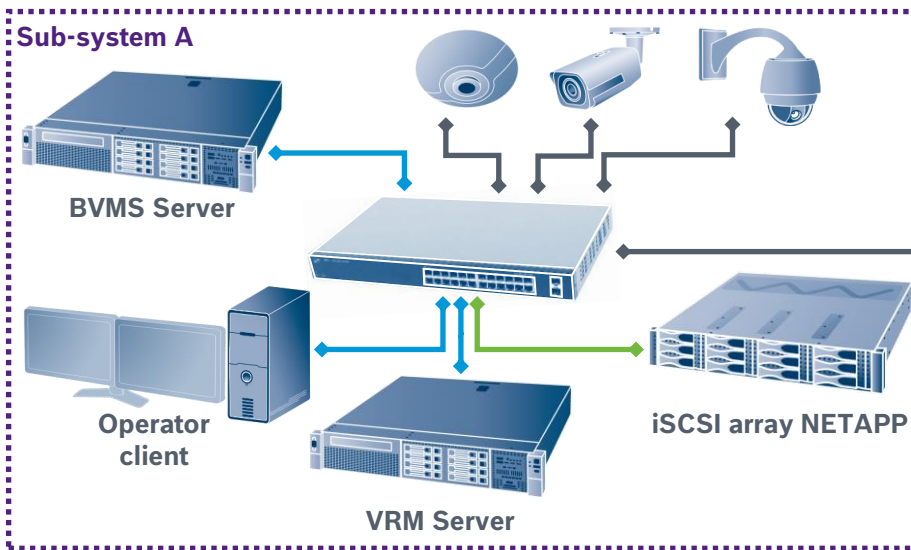
CAMERAS	CLIENTS	SUBSYSTEMS
10.000	100	20
max	max	max

- ❖ BLACK = 100Mbit/s
- ❖ BLUE = 1Gbit/s
- ❖ GREEN = 1Gbit/s - 10Gbit/s

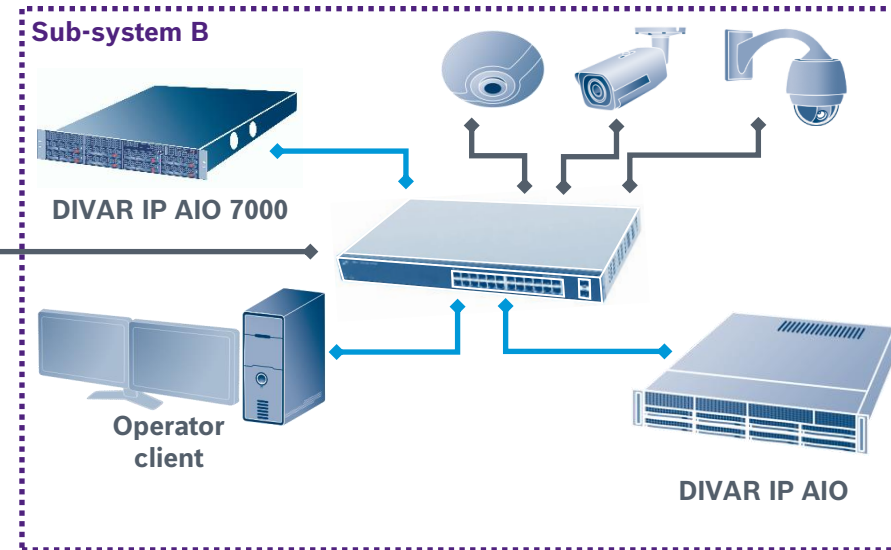
Up to 2.000 cameras per subsystem.
 Up to 10.000 cameras per user-group.
 Up to 20.000 cameras per environment, spread over 20 user-groups.
 Central server: BVMS Plus or DIVAR IP AiO 7000
 Subsystems: BVMS (Lite, Plus), DIVAR IP3000, 7000, DIVAR IP AiO 5000, 7000



We do not recommend to use port forwarding due to security risks. We recommend to use a secure connection, for example, a VPN, to allow multiple locations to communicate.



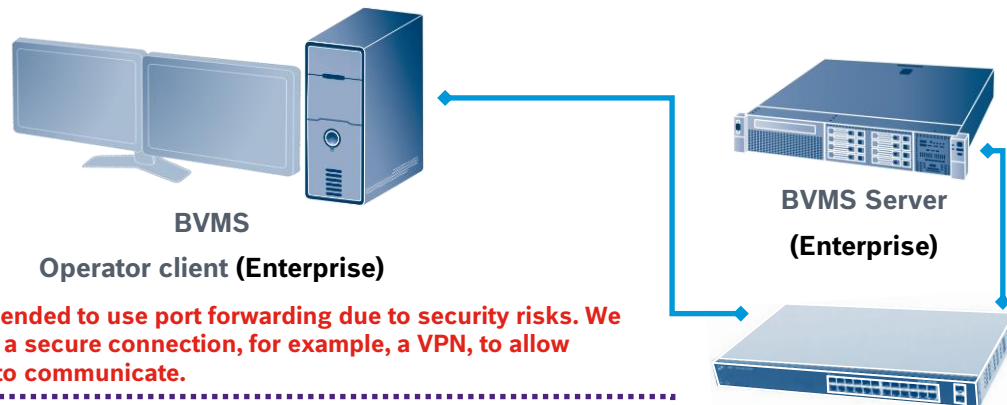
Minimum speed: 10Mbit/s.
 Recommended speed: 100Mbit/s
 (network speed has an impact on the start-up time of the enterprise operator client and the number of video streams that can be displayed).



BVMS Blueprints

Enterprise – Multi-servers (SSH)

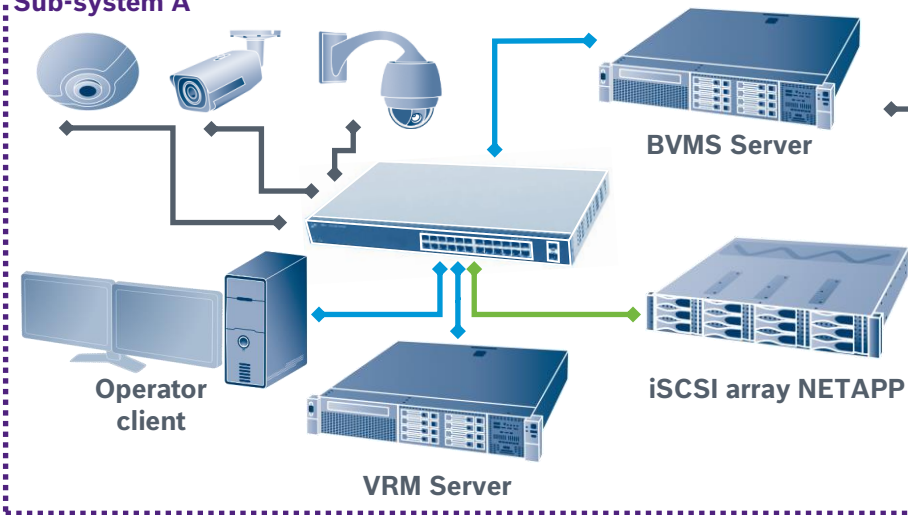
- ❖ BLACK = 100Mbit/s
- ❖ BLUE = 1Gbit/s
- ❖ GREEN = 1Gbit/s - 10Gbit/s



SSH connectivity between Enterprise Operator client and Enterprise subsystem.

BVMS Management Server or DIVAR IP AIO can route at least 50Mbit/s between Enterprise network and video network.

Sub-system A

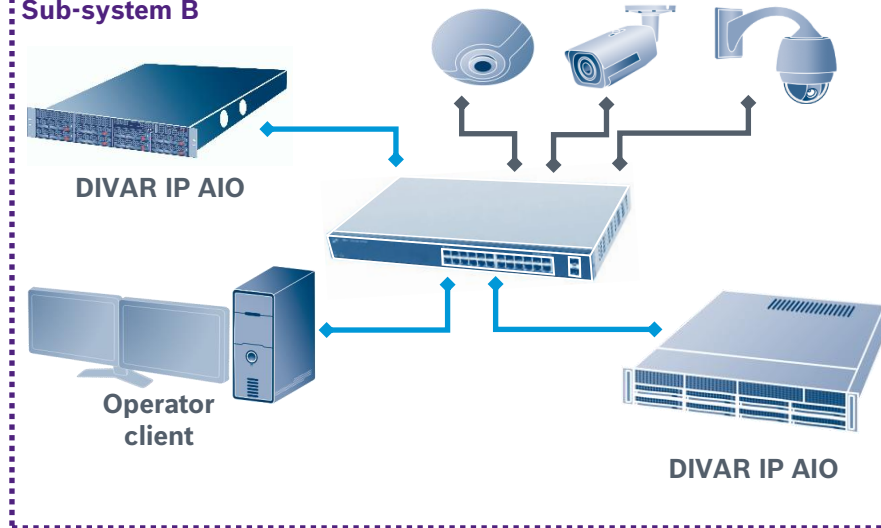


BVMS Server or DIVAR IP AIO acts as bridge between Enterprise and Video network.

Minimum speed: 10Mbit/s.

Recommended speed: 100Mbit/s (network speed has an impact on the start-up time of the enterprise operator client and the number of video streams that can be displayed).

Sub-system B



LOW BANDWIDTH CONNECTIONS

BVMS Blueprints

Unmanaged sites

SITES
 9999
 max

CLIENTS
 100
 max

DEVICES
 5 max
 per site

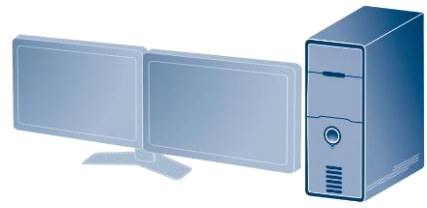
NO ALARM

NO STATUS

- ❖ BLACK = 100Mbit/s
- ❖ BLUE = 1Gbit/s
- ❖ GREEN = 1Gbit/s - 10Gbit/s
- ❖ RED = >1Mb



BVMS Server

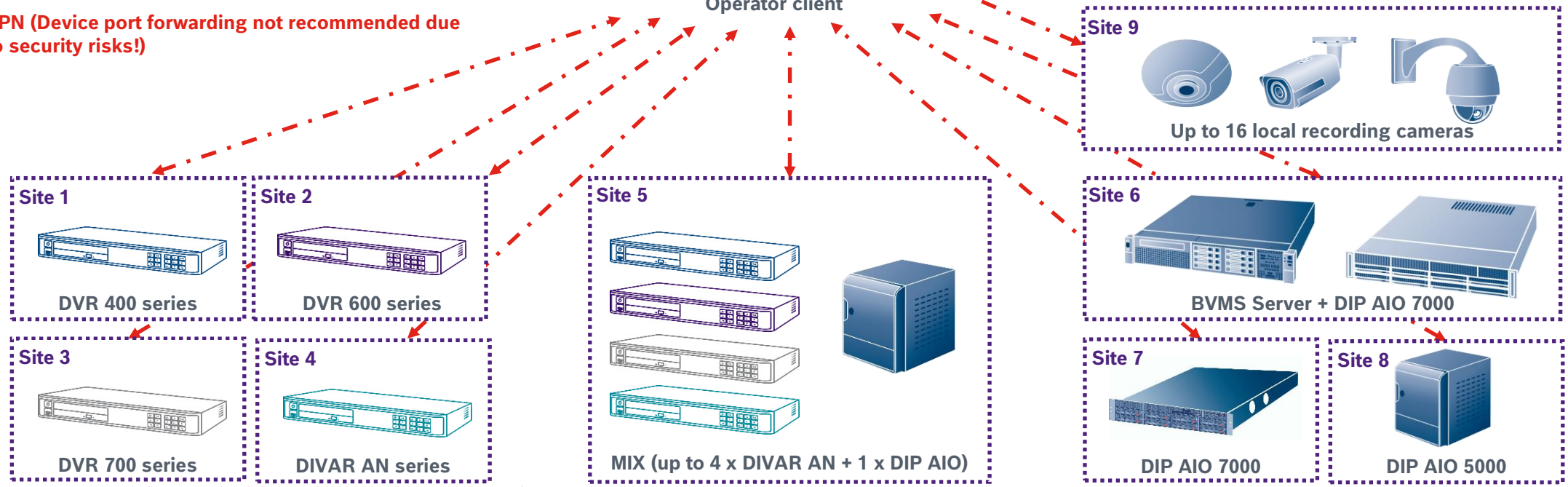


Operator client

CONNECTION ON DEMAND

(max 20 simultaneous connections / client)

VPN (Device port forwarding not recommended due to security risks!)



Setup DVR cameras profil and bandwidth limits accordings to the available bandwidth and simultaneous video streams to be transmitted via WAN

MOBILE APP

BVMS Blueprints

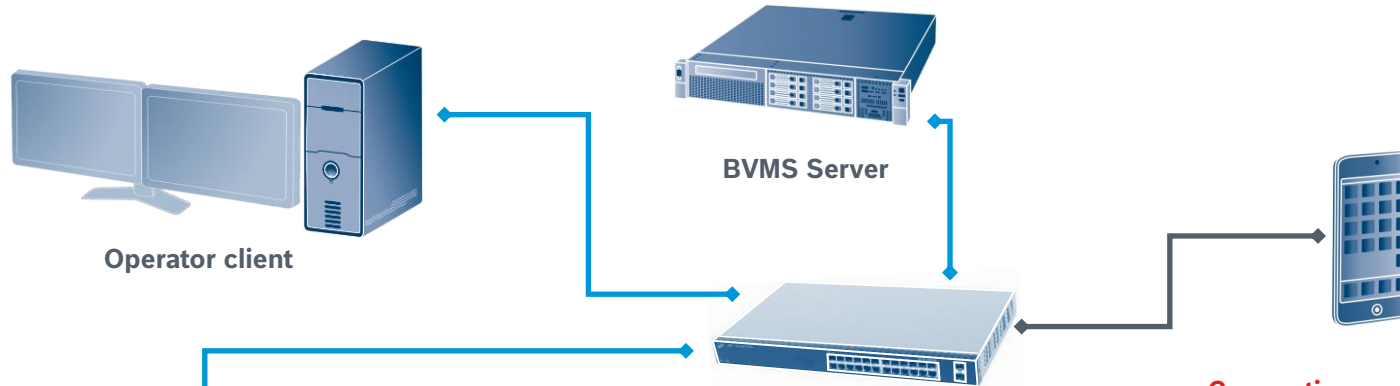
Video Security App

CAMERAS
2000
max

CLIENTS
100
max

VRM
125
max

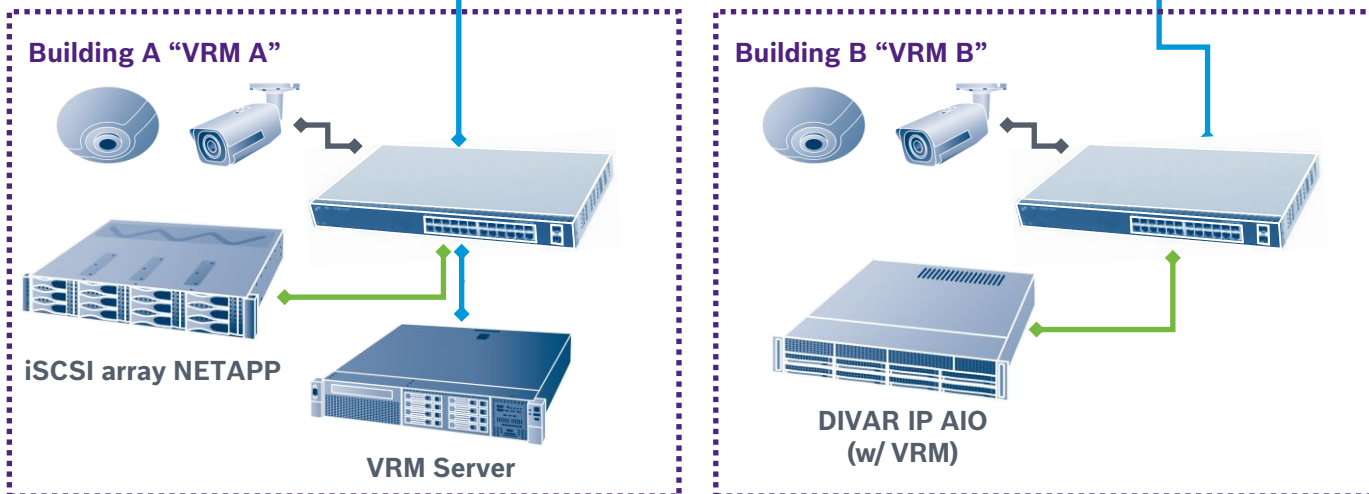
- ❖ BLACK = 100Mbit/s
- ❖ BLUE = 1Gbit/s
- ❖ GREEN = 1Gbit/s - 10Gbit/s



Connections made from Video Security app to each VRM – proper network configuration (ie. VPN) required.

Within VIDEO SECURITY app single site should not contain more, than 256 cameras.

In case of bigger BVMS Professional systems, cameras should be logically distributed to folders, each containing up to 256 cameras.



BVMS APPLIANCES

DIVAR IP all-in-one 4000 / 5000

DIVAR IP all-in-one 6000 / 7000

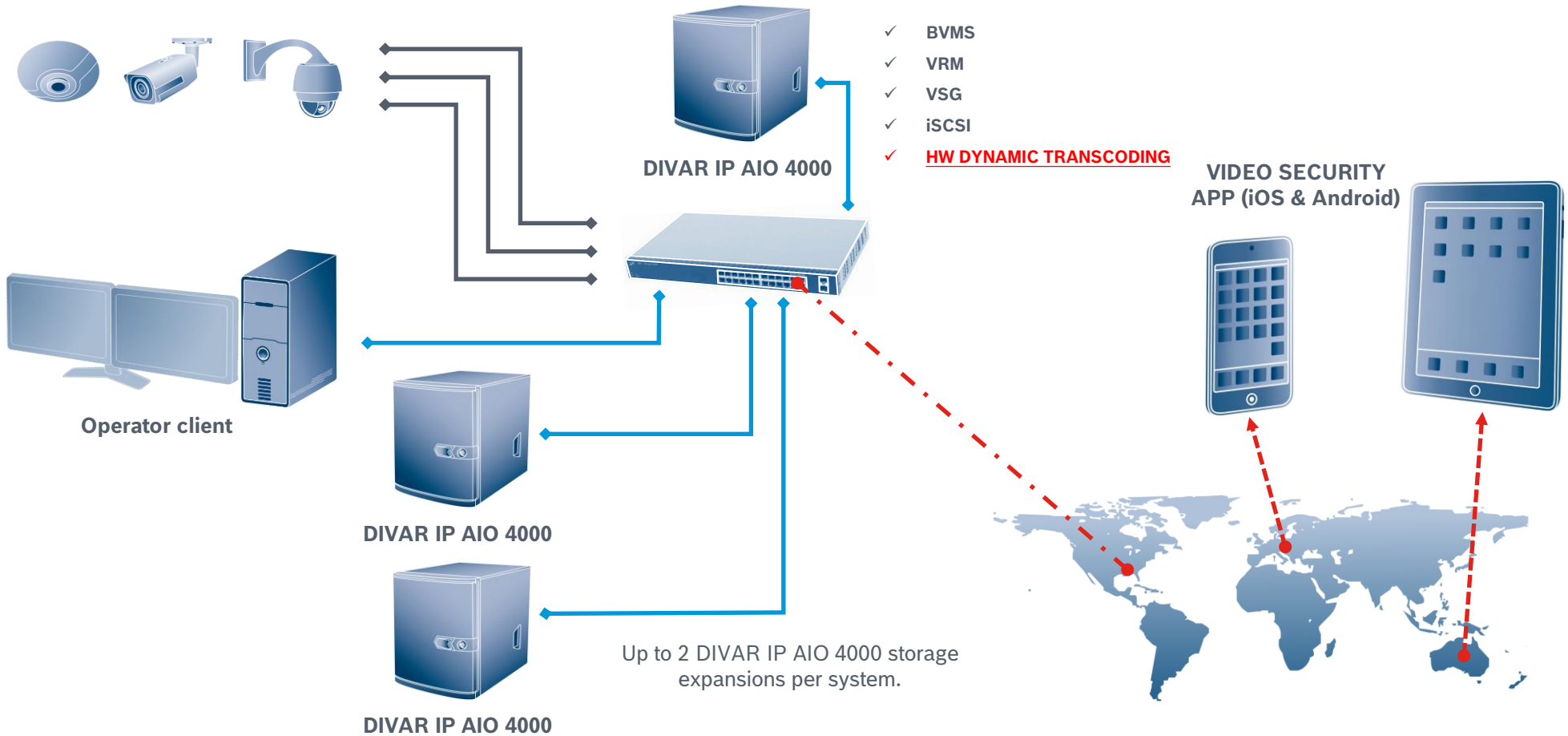
DIVAR IP 7000 R2

BVMS Blueprints

DIVAR IP AIO 4000

CAMERAS	CLIENTS	Expansion
32	5	2
max	max	max

- ❖ BLACK = 100Mbit/s
- ❖ BLUE = 1Gbit/s
- ❖ GREEN = 1Gbit/s - 10Gbit/s

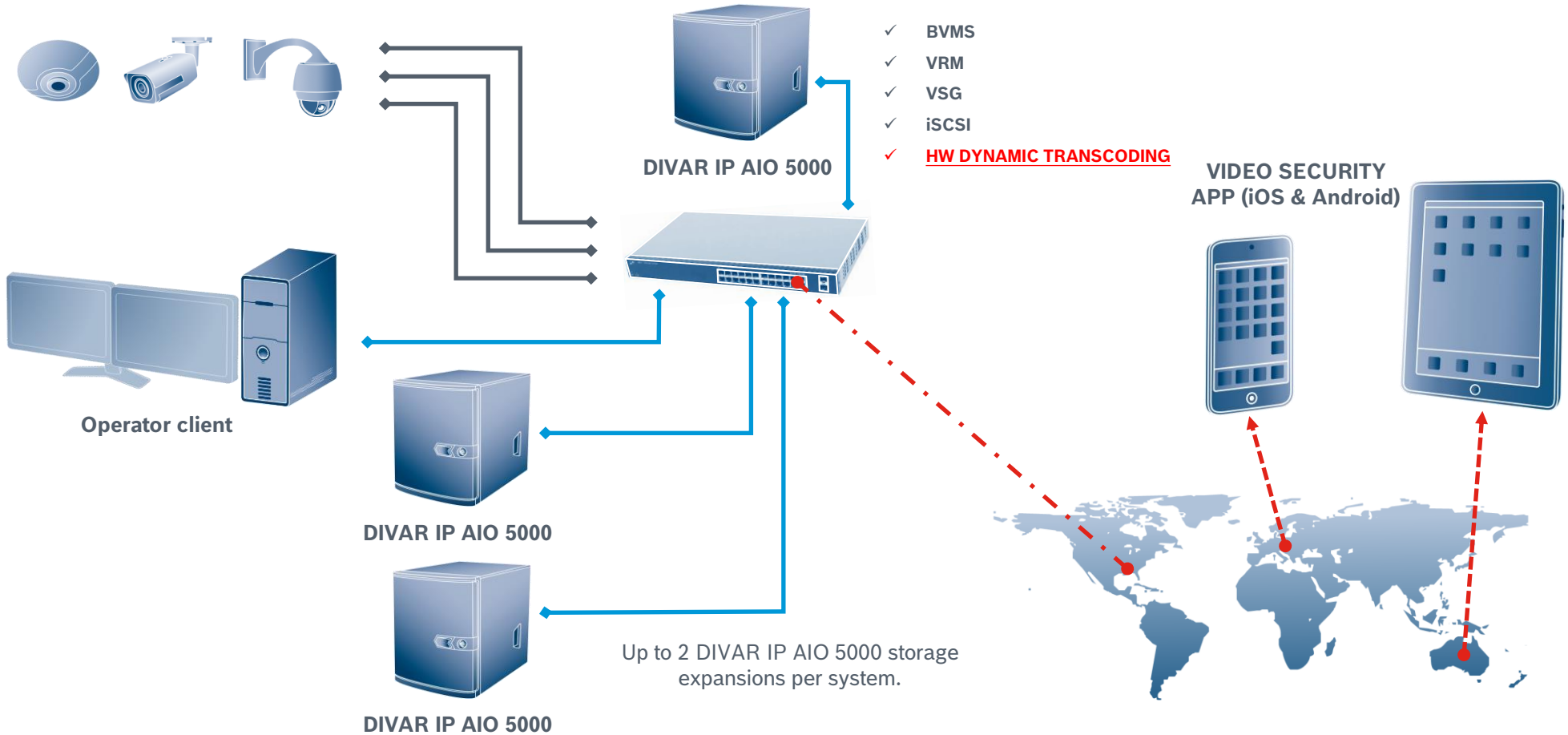


BVMS Blueprints

DIVAR IP AIO 5000

CAMERAS	CLIENTS	Expansion
42	5	2
max	max	max

- ❖ BLACK = 100Mbit/s
- ❖ BLUE = 1Gbit/s
- ❖ GREEN = 1Gbit/s - 10Gbit/s

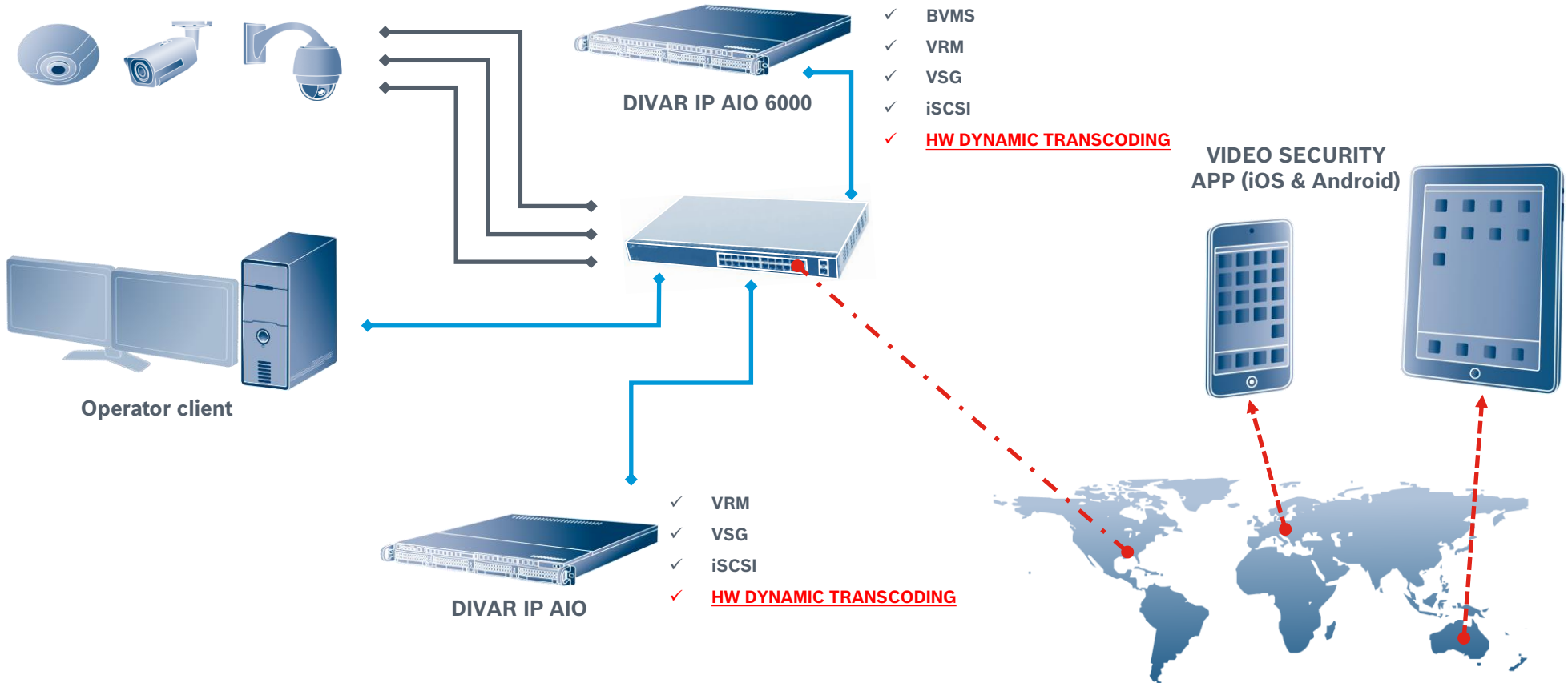


BVMS Blueprints

DIVAR IP AIO 6000 + Storage

CAMERAS	CLIENTS	Expansion
64	20	2
max	max	max

- ❖ BLACK = 100Mbit/s
- ❖ BLUE = 1Gbit/s
- ❖ GREEN = 1Gbit/s - 10Gbit/s

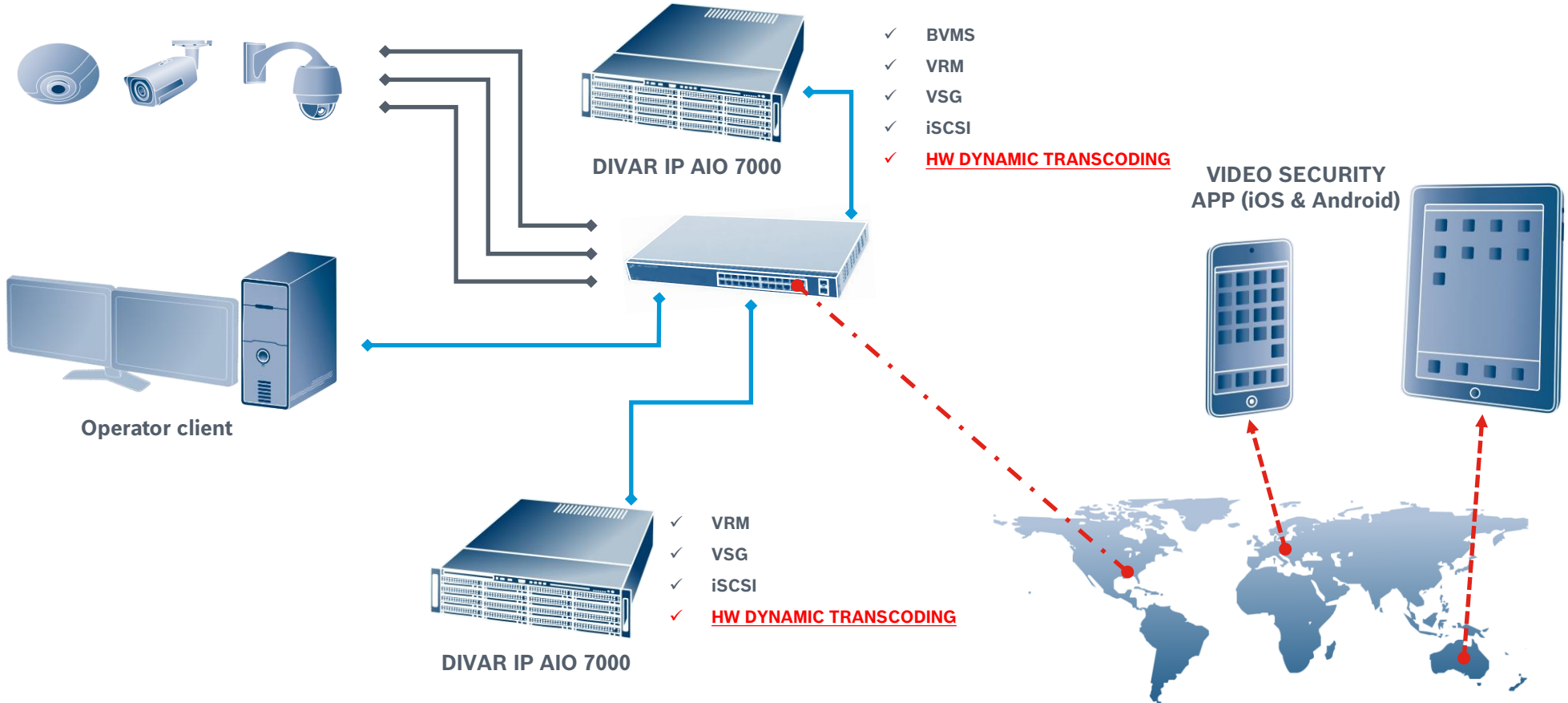


BVMS Blueprints

DIVAR IP AIO 7000 + Storage

CAMERAS	CLIENTS	Expansion
256	10	4
max	max	max

- ❖ BLACK = 100Mbit/s
- ❖ BLUE = 1Gbit/s
- ❖ GREEN = 1Gbit/s - 10Gbit/s



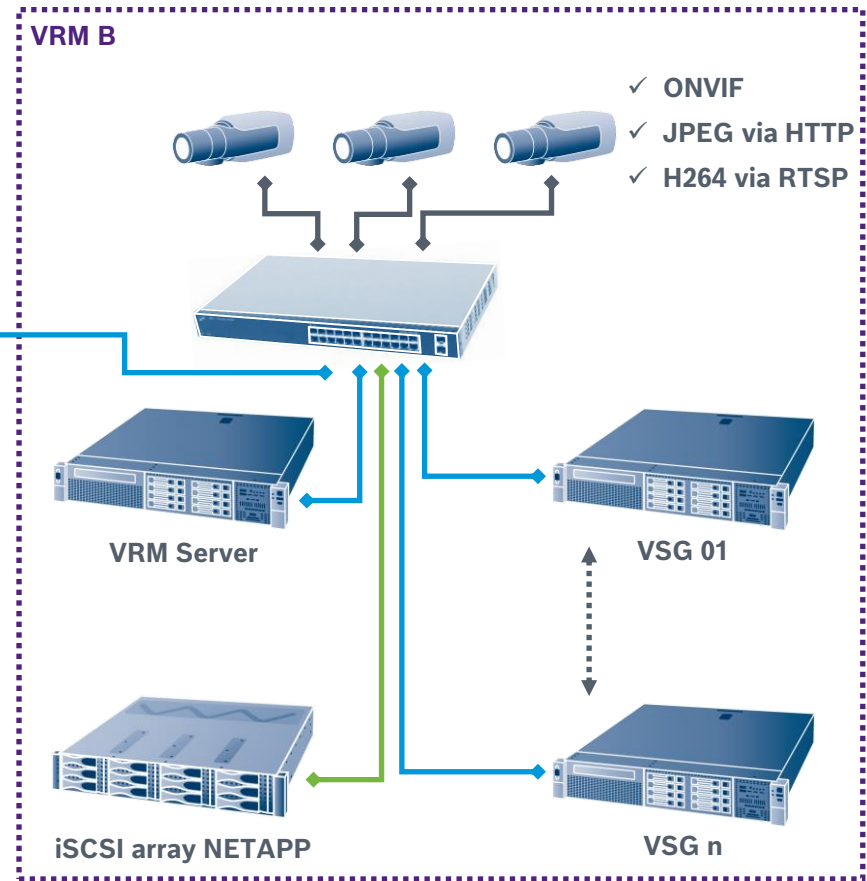
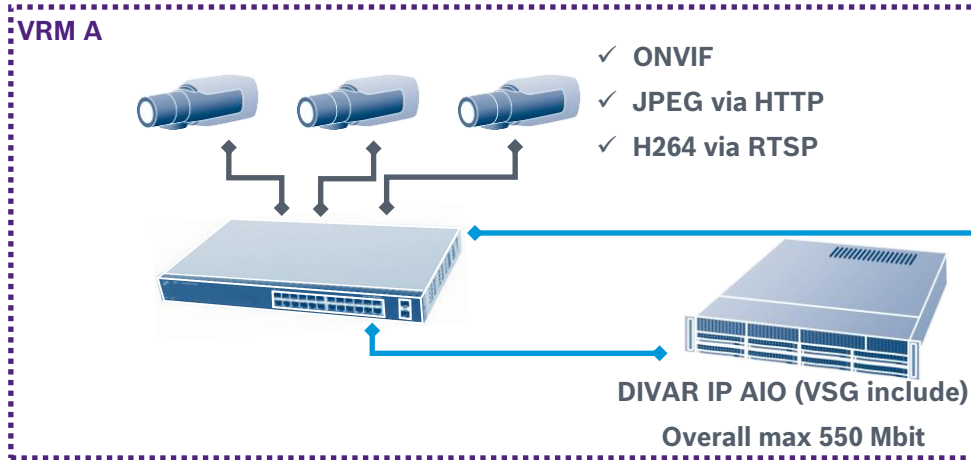
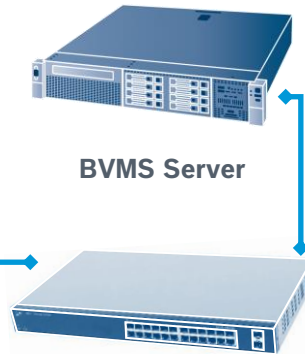
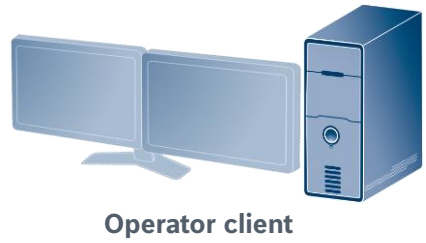
VIDEO STREAMING GATEWAY

BVMS Blueprints

Video Streaming Gateway

CHANNELS
32/VSG
max

- ❖ BLACK = 100Mbit/s
- ❖ BLUE = 1Gbit/s
- ❖ GREEN = 1Gbit/s - 10Gbit/s



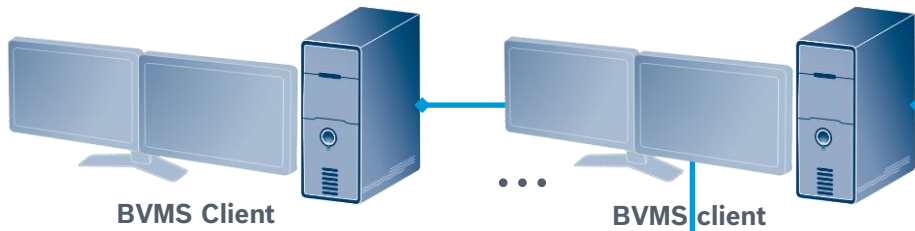
ACCESS CONTROL INTEGRATION

BVMS & AMS systems integrated

Unified security operation

- ❖ BLACK = 100Mb
- ❖ BLUE = 1Gb
- ❖ ORANGE = Wiegand
- ❖ GREEN = I/O

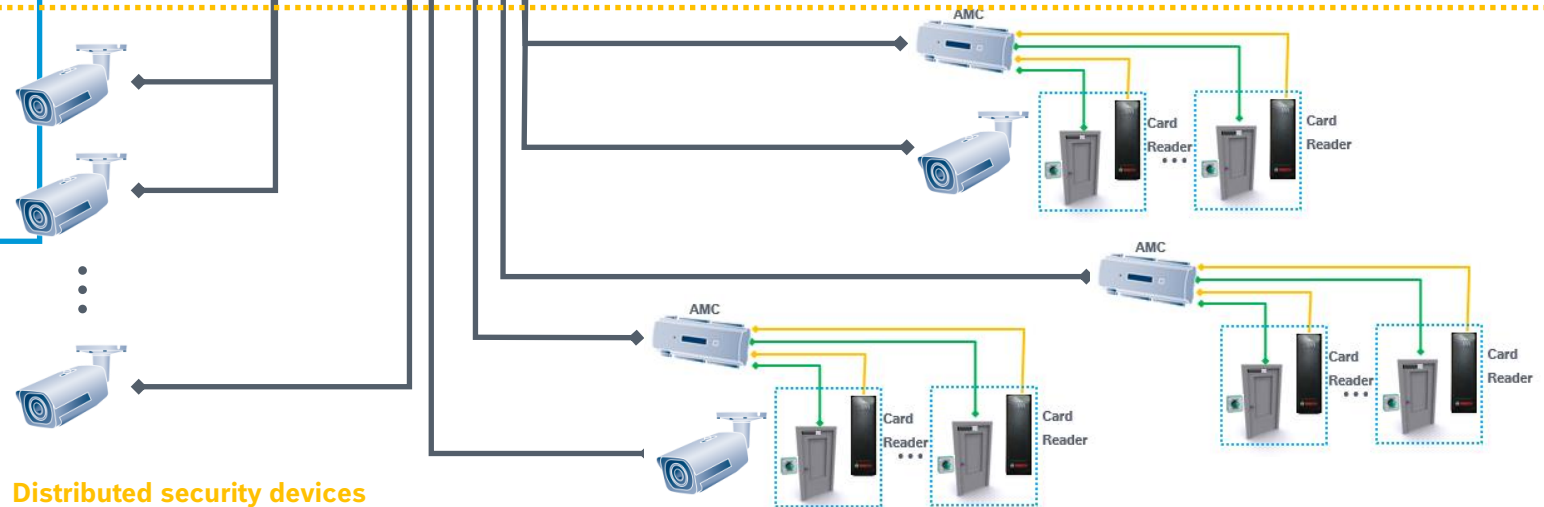
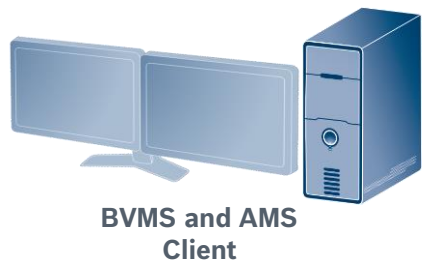
Security control room: Unified security operation Video & Access



Server room: BVMS and AMS servers coexist in separated servers



Reception: Enrolment process and basic video verification



Distributed security devices

BVMS VIEWER

BVMS Blueprints

BVMS Viewer

CAMERAS
500
max

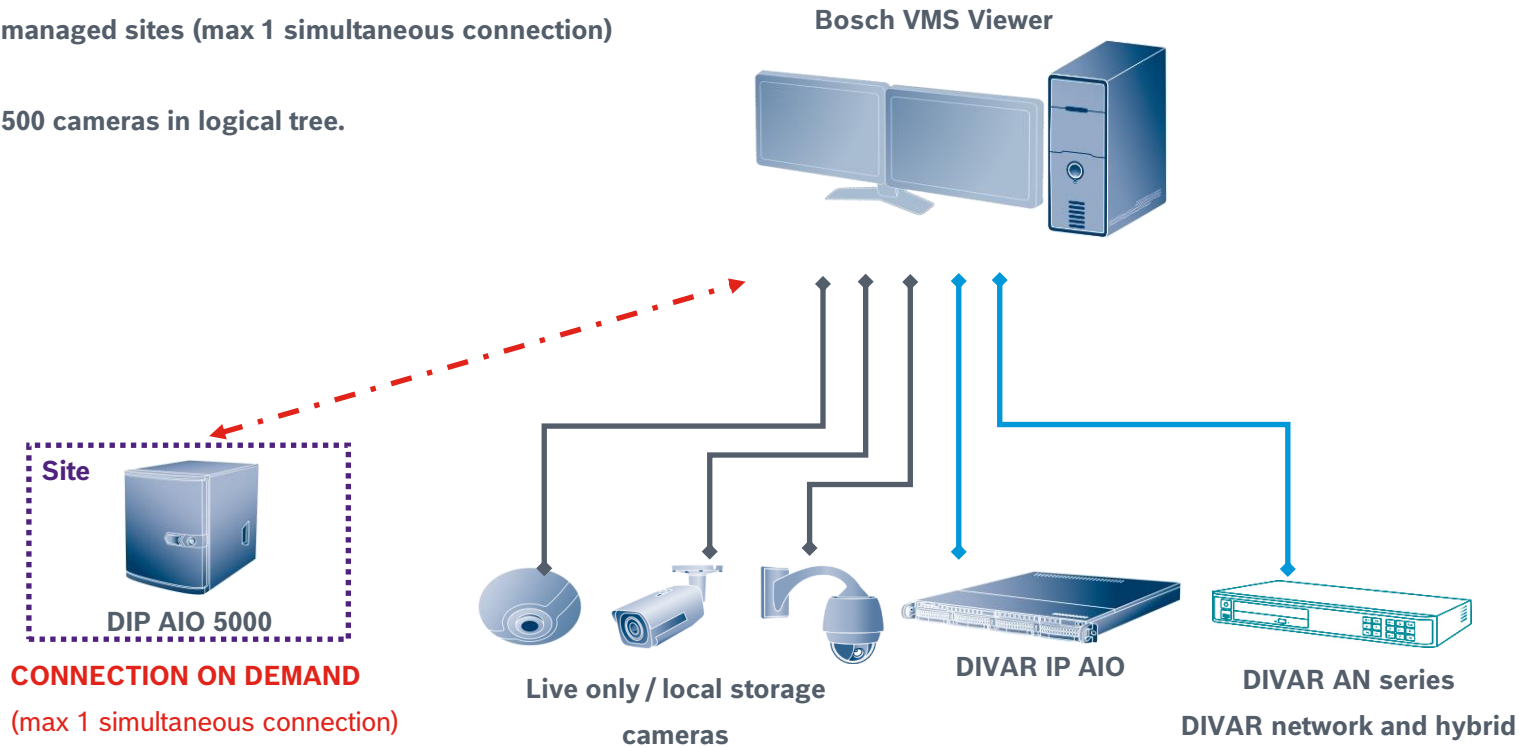
CLIENTS
1
max

- ❖ **BLACK** = 100Mbit/s
- ❖ **BLUE** = 1Gbit/s
- ❖ **GREEN** = 1Gbit/s - 10Gbit/s

Free of charge:

- 16 live only / local storage cameras
- 5 Recording solutions (DVR, VRM device)
- 16 unmanaged sites (max 1 simultaneous connection)

Max limit: 500 cameras in logical tree.





Bosch Video Management System