Introduction:

In the rapidly evolving world of video surveillance, having a reliable and flexible Video Management System (VMS) is essential. Neutron is an advanced intelligent video management system that is ONVIF enabled, offering seamless compatibility with a wide range of IP-based cameras and devices. With Neutron, you can efficiently manage, monitor, and analyze your video footage, enabling you to enhance security, streamline operations, and make informed decisions.

Key Features:

1. Live Stream Display in the Web:

Neutron VMS facilitates live stream viewing through its intuitive web panel accessible via modern web browsers. Utilizing HTML5 video streaming technology, Neutron ensures smooth playback and real-time monitoring of surveillance feeds.

2. Video Recording Management:

Neutron offers robust video recording management capabilities, leveraging efficient storage allocation and automatic purging mechanisms. Through configurable settings, administrators can define retention policies based on factors such as video age and maximum storage capacity, ensuring optimal resource utilization.

3. Time-lapse Management:

With Neutron, users can effortlessly create time-lapse videos from camera streams. By capturing and compiling images at specified intervals, Neutron's time-lapse feature enables easy visualization and archival of long-term surveillance footage.

4. Tiered User System:

Neutron implements a tiered user system to enforce access control and permissions management. Administrators can assign privileges to users, restricting access to specific cameras and recordings based on predefined roles and permissions.

5. Multitenancy User System:

Neutron's multitenancy support enables the creation of distinct administrative groups, each managing its own set of cameras and user accounts. This hierarchical structure allows for seamless collaboration and resource sharing within organizations or across departments.

6. Bypass Browser Stream Limit:

To overcome browser-imposed stream limitations, Neutron offers a variety of stream types optimized for efficient resource utilization. By dynamically managing stream loads, Neutron ensures uninterrupted surveillance monitoring without compromising browser performance.

7. Motion and Object Detection:

Neutron's advanced motion and object detection algorithms enable proactive event-based recording and alerting. Leveraging computer vision technology, Neutron detects motion and objects in surveillance footage, triggering configurable actions such as recording or notification alerts.

8. Event Alerting:

Neutron provides real-time event alerting functionality, notifying users of triggered events via configurable notification channels. Administrators can customize alert settings to receive notifications via email, SMS, or in-app alerts, ensuring timely incident response.

9. Multicasted Streams:

Neutron optimizes stream processing efficiency by multicasting camera streams, allowing for simultaneous recording, streaming, and viewer connections. By minimizing redundant stream processing, Neutron maximizes resource utilization and scalability.

10. 2-Factor Authentication:

Enhancing account security, Neutron offers 2-factor authentication (2FA) as an additional layer of protection. Users can enable 2FA via their notification system, requiring secondary authentication for secure access to Neutron VMS.

11. RESTful API Access:

Neutron exposes a comprehensive RESTful API, enabling developers to programmatically interact with the platform's features and functionalities. From accessing live streams to managing user accounts, Neutron's API offers extensive capabilities for integration and automation.

12. Embeddable Streams:

Neutron's embeddable stream feature allows users to seamlessly integrate live streams into external websites using iframes. By leveraging the API, users can embed live surveillance feeds directly into web pages, enhancing situational awareness and accessibility.

13. Camera Scanner (ONVIF):

Neutron simplifies camera setup with its built-in ONVIF scanner, enabling quick detection and configuration of compatible IP cameras. By automatically detecting and adding cameras to the system, Neutron streamlines the deployment process, reducing setup time and complexity.

14. External Event Triggering:

Neutron supports external event triggering via its API, allowing external systems to initiate recording actions through simple HTTP requests. This feature enables seamless integration with third-party applications and automation workflows, enhancing operational efficiency.

15. Web Interface:

Neutron's web interface provides a user-friendly dashboard for accessing live streams and recordings. Leveraging modern web technologies, the interface offers intuitive navigation and responsive design, ensuring seamless user experience across devices and platforms.

16. Tab/iPad Companion View:

Neutron offers a companion view optimized for tablets and iPads, allowing users to access live streams and recordings on the go. With easy remote access capabilities, users can monitor surveillance feeds from any location, enhancing mobility and flexibility.

17. PTZ Support:

Neutron provides comprehensive PTZ (Point-Tilt-Zoom) support, enabling users to remotely control camera positioning and zoom levels. Through the web interface or API, users can pan, tilt, and zoom cameras for precise surveillance monitoring and situational awareness.

18. Video Slicer:

Neutron's video slicer feature enables users to create clips from recorded video segments with ease. By specifying start and end points, users can extract relevant footage for analysis, sharing, or archival purposes, enhancing workflow efficiency and productivity.

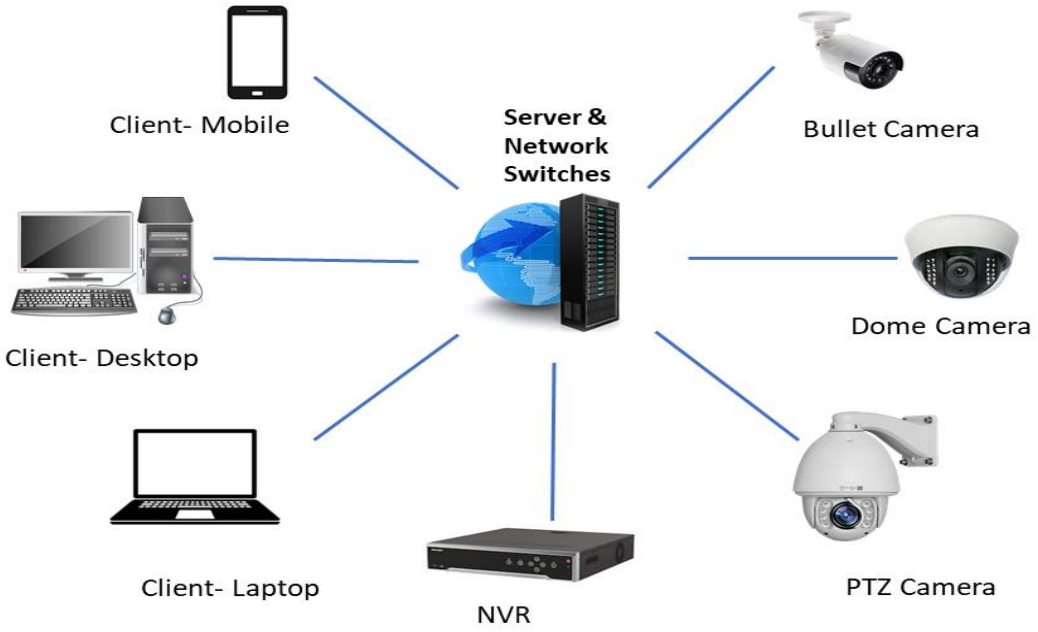
19. Cross-Platform Compatibility:

Neutron VMS is designed for cross-platform compatibility, supporting deployment on Linux, Mac, and Windows operating systems. Whether running the server application or accessing the web dashboard, Neutron offers seamless performance and accessibility across diverse environments.

20. Scheduling Camera Presets:

Neutron enables users to schedule camera presets, allowing for automated configuration changes at designated times. By defining preset configurations for different surveillance scenarios, users can optimize camera settings for enhanced monitoring and situational awareness.

System Architecture:



Recommended System requirement:

N-VMS Minimum Server Specs	up to 100 Cameras	up to 250 Cameras	up to 500 Cameras
PROCESSOR	Single Intel® 12 Core™ Xeon®	Single Intel® 24Core™ Xeon	Single Intel®48 Core™ Xeon
OPERATING SYSTEM	Ubuntu Server	Ubuntu Server	Ubuntu Server
COMPUTER TYPE	Server – dual power supply suggested	Server – dual power supply suggested	Server – dual power supply suggested
SYSTEM MEMORY (RAM)	16 GB	32 GB	64GB
DISK	Two separate hard drives or two sets of RAID arrays	Two separate hard drives or two sets of RAID arrays	Two separate hard drives or two sets of RAID arrays
Disc capacity	According to the Camera and Backup required	According to the Camera and Backup required	According to the Camera and Backup required
NETWORK CONNECTION	1 Gbit/sec or greater	1 Gbit/sec or greater	1 Gbit/sec or greater
VIRTUAL ENVIRONMENT	VM Ware ESXi version 7.0	VM Ware ESXi version 7.0	VM Ware ESXi version 7.0