



# Sparsh NVRs

Sparsh Server grade NVRs designed for high – capacity applications, with redundant hardware to allow the extrarobustness for enterprise activities.

For Video access the most capable mode can 24x7 process video on 128 channels with the throughput upto 1600 Mbps.

- 32, 48, 64, 96, 128, or 256 channels on option
- 36, 24, 16, 12, or 8 HDD trays
- Storage servers 240TB & 440TB on option
- RAID 0,1,5,6,10, 50, 60 to protect video data.
- Redundant hardware for excellent reliability
- 24x7 video recording at max. 512 Mbps

For storage, the True Enterprise can get a boost up to 800 TB by opting for an external storage server. Also on option is an Archive Server to back up video data and a Failover Server for fault-tolerance.

The whole True Enterprise lineup is designed to expand VMS 4.0 Suite, a cloud-based AI video system to control up to 100,000 channels.

If you are looking for a robust NVR for high-capacity and highly available service, look no further than True Enterprise NVRs.



- **Virtual Hard Disk (VHD)**

An Enterprise NVR with a “virtual hard disk” (VHD), which is a Windows-based system image tool. This VHD can take a snapshot of the NVR’s system status and software settings to recover the system within 5 minutes once a severe system failure or OS/software corruption occurs. This tool helps you reduce not only RMA but also the need for on-site support. For users, everything just falls back into place so soon.

- **Extra Reliable**

The True Enterprise sports dual LAN and power redundancy to tolerate faults and prevent data loss. Hardware and software watchdogs are featured. The hardware watchdog monitors system health, including hardware temperature, fan RPM, and others, while the software one keeps his eye on the operation of system services. There is also a hot-swappable PWM cooling fan to auto-switch itself between different speeds to deliver smart system heat dissipation.

- **Time Sector Engine (TSE)**

Unlike conventional NVRs with a centralized database, NVR adopts an exclusive TSE (Time Sector Engine) to handle high bandwidth throughput and to deter latency for massive HD video processing, so that it gets superb video display, whether live or playback. The NVR has a max. recording rate of 512Mbps, handles up to 256 IP cameras, and processes video at high speed with 150ms~190ms latency for a D1 resolution with full frame rate display, and the NVR gives you the best real-time PTZ control by this exclusive TSE.

- **High-Capacity**

Optimized for enterprise applications, the True Enterprise NVR supports high-density HDDs in 4U and features max. 36 hot-swappable 3.5" SATA hard disk trays. Stand-alone, the NVR supports max. 256 channels, while stacked up to VMS 4.0, 100,000 channels are supported.

- **Modbus support & TCP message**

The NVR supports Modbus, a very popular serial communication protocol widely used for the connection of industrial electronic devices. Users do not need to invest extra effort and cost to incorporate a 3rd-party system quickly. The NVR also features powerful alarm management that can send TCP messages to alert security operators. These advantages make the NVR highly eligible for some promising solutions such as Smart Buildings for DCS (distributed control system) and Smart Cities for CAP (common alerting protocol) such as IBM IOC.

- **Solution for a large and complex system**

The NVR is designed to join VM4.0 Suite, a cloud-based AI video system that is easy-to-grow to overcome any kind of system integration trouble. The 4.0 can grow to include extensive groups of workstations, video walls, NVRs, data servers, storage, 3rd-party systems, and a large number of 100,000 IP cameras.

VMS 4.0 allows mixed storage in the existing NVRs, IP-SAN, camera SD cards, and private/public clouds. This is highly helpful especially for a large-scale project, such as enterprise or government.

# Software Features

- **Self-Diagnostics of System Hardware**

The NVR management software, HD NVR Manager, features some hardware health facilities, for example a hardware tree listing all critical hardware with the essential data called out such as chipset temperature, fan speed, fan RPM, CPU temperature, CPU voltage, SSD temperature and so on. When a hardware component goes out of control, the software will launch an alarm to warn you.

- **Dynamic video buffer**

It is quite often to see the quality of streamed media suffer from network delays. The NVR uses dynamic video buffer size to tolerate poor network conditions, whether with mobile data or Wi-Fi.

- **N+M Failover for Zero downtime**

For mission-critical projects, a Failover Server is an option for the NVR. The server is a turnkey product to take over a failed NVR within 45 seconds. It has an advanced design to allow non-stop video recording and seamless video display. The failover solution is extra capable with the N+M feature to watch over up to 30 NVRs.

- **Video Content Analysis**

The NVR features sophisticated Video Content Analysis, including VMD (Video Motion Detection) that detects moving objects, E-Fence that discerns objects crossing a virtual line while People Counting calculate how many people have passed a virtual line. Users can set up an interested VCA event for alarms and retrieve the relevant VCA video with a powerful search tool. In some worst cases, VCA can provide you with the evidence for law enforcement.



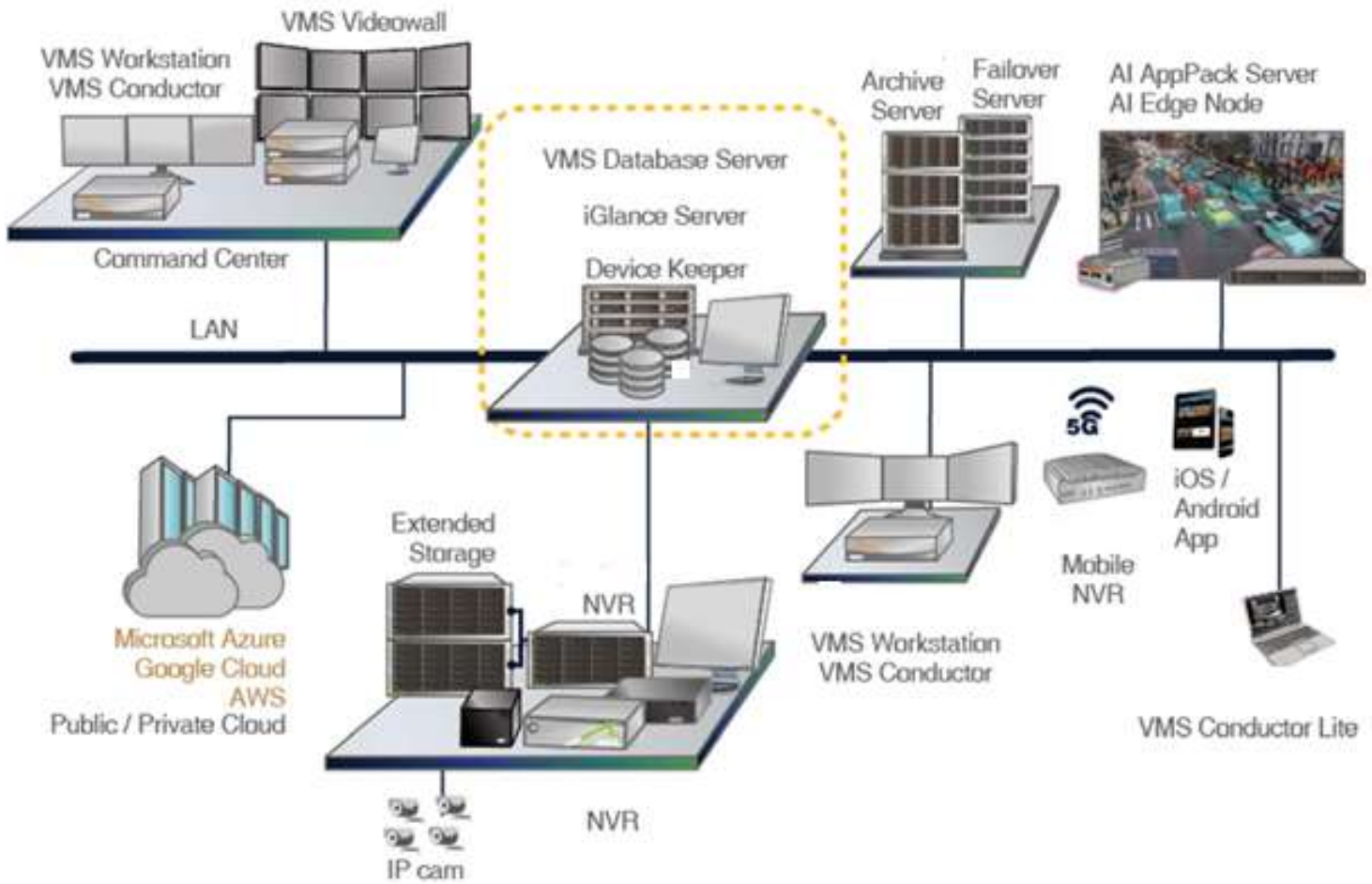
- **VMS 4.0 Suite**

The NVR is designed for VMS 4.0 Suite, which is capable of controlling 100,000 cameras. This solution also brings cloud, AI, and hybrid storage for the flexible deployment of large video systems. Remote clients are also available, including a PC thin client called VMS Conductor-Lite, IE-App, iOS App, and Android App. Users can access some of the NVR's basic features on these clients on the go, just like they are with NVR.





# System Architecture



## NVR Image



# Hardware Specification

**MODEL** **SR-NF32FK02**

## System

CPU	Intel® Xeon® W Series, 6 Core
Memory	16GB
OS	Windows® Server Emd Standard 2019
OS Disk	2 x 256G SSD, RAID 1
Watchdog	Hardware watchdog & software watchdog

## Storage

Interface	3.5" SATA HDD
Hard disk trays (hotswap)	24 pcs
Storage Capacity	24 x 16TB
RAID level	RAID 0, 1, 5, 6, 10, 50, 60

## Display

Output	1 x DVI-D, 1 x DisplayPort 1.4, 1 x HDMI 2.0a, 1xVGA
Local Disp Resolution	4096 x 2160

## Interface

Rear USB Port	2 x USB3.2 Gen1 (Type A); 4 x USB3.2 Gen2 (1 x Type C & 3 x Type A)
Audio port	Rear: 1 x Center/LFE Out, 1 x Surround Out, 1 x S/PDIF Out, 1 x Line In, 1 x Line Out, 1 x Mic In
Serial COM port	NA
Alarm	8DI/8DO by IO Module
e-SATA	USB-To-eSATA Adaptor

## NETWORK

Network Protocol	HTTP, TCP/IP, IPv4/IPv6, UPNP, RTSP, UDP, SMTP, NTP, DHCP, DNS, IP Filter, PPPOE,DDNS, FTP
Interface	1 x 1Gb LAN; 1 x 2.5Gb LAN; 2 x 10Gb SPF+

## Power

Voltage	100~240 Vac, 50-60Hz
PSU	1200W
Redundancy	Yes
Consumption (W/O HDD)	313W

## General

Operation Temperature/ Humidity	5°C~35°C (41°F~95°F),8%~90%
Storage Temperature /Humidity	40°C~70°C (-40°F~158°F),5%~95%
Chassis	4U rackmount
Dimension /Weight	34.5 kg
Certification	CE, FCC, BIS

# Software Specifications

**Description** **NVR Manager**

## Video Recording

IP camera license	16, 32, 64, 96, 128
Recording Rate	Max. 768Mbps
Recording Resolution	D1,1.3~20 megapixels, 25/30FPS
Recording Mode	Full-time recording, manual recording, recording by schedule, event, alarm, video motion detection

Video codec	H.265, H.264, MPEG4, M-JPEG, MxPEG
Audio Codec	G.711, G.726, AAC
Audio & Video Function	Synchronized
Streaming Type	Unicast & Multicast
<b>Video display &amp; Management</b>	
No. of live Video Streams	128
Display Pattern	1, 2, 3, 4, 5, 6, 8, 9, 12, 13, 16, 18, 24, 25, 36, 48, 64
Live-View Operation	ROI, ePTZ, corridor mode, software de-warp, digital zoom in/out, onscreen PTZ, 2-way audio
ONVIF	ONVIF Profile S,G,T
Camera search	Manual search, auto discovery
Synchronous Playback	Up to 16 Ch
Playback Controls	Forward/backward playback, pause, jump to next/previous frame, go to date, speed controls, go to some time later/ago (0.5/1/5 minutes).
Video Export	Via USB (*.AVI, *.AVA, & *.MKV supported), digital watermark
Video Search	By time, alarm, event, missing object, foreign object, E-Fence, people counting, transaction data from POS
<b>PTZ</b>	
Controlling Device	Mouse, K205 Keyboard
Operation	Direction controls, zoom in/out, preset, patrol
<b>VCA</b>	
Features	E-Fence, video motion detection, people counting, missing/foreign object search
Email- Function	Email to multiple recipients on the basis of alarm type (Critical, warning, informational)
Event Search	Search for a missing or foreign object; search for an event of people counting, video motion, or E-Fence.
Trigger Source	Video loss, sensor trigger, HDD crash, system crash, abnormal transaction from POS, E-Fence, video motion detection, people counting
Reaction	User-definable text message, video pattern popup, e-mail, output alarm signal, trigger recording, PTZ preset
Setup	A Rule Wizard for flexible setup
<b>Alarm</b>	
Trigger Source	Video loss, sensor trigger, HDD crash, system fan speed, CPU overheat, HDD overheat, system crash, abnormal transaction from POS, E-Fence, video motion detection, people counting
Reaction	User-definable text message, video pattern popup, e-mail, output alarm signal, trigger recording, PTZ preset
Setup	A Rule Wizard for flexible setup
DI & DO Points	48 x DI points; 48 x DO points
<b>Remote Access Clients</b>	
Web Client	IE 9.0, 10.0, 11.0
App Client	iOS 10 and above; Android 5.0 and above
VMS/CMS & PC thin Client	VMS(E4200), CMS(SW-E2200-CW03), CMS Lite (E90-Window 8 &10)
Number Of Clients	16
<b>POS</b>	
License	8 Units
Integration	Integrable with all brands via POS filters
Transaction View	Pattern-view with both transaction data and relevant videos
Data Search/ Retrieval	Search by time, keyword, or price to retrieve transaction data with relevant video
POS Alarm	Alarm setup by item or value; supporting popup alarm, email alarm, text message alarm, etc.

## System

System Update	NVR software update
Event Logs	Event logs of system, cameras, users, etc.
Throughput	1600 Mbps
Languages	20+ languages are supported, including English, Spanish, French, Dutch, Italian, Japanese, Chinese, etc.
Power Management	IPMI

## Rack mountable Extended Storage

Extended Storage have respectively 24 and 44 hard disk trays at its front to add 240TB and 440TB to a True Enterprise NVR. Enterprise NVR by the SAS connectors at their rears to boost the storage of the NVR to 800TB. Together they bring an ideal solution for the large-scale or mission-critical projects that need to be online around the clock. They are your best choice for shopping complexes or large banking business.

### DESCRIPTION Extended Storage Server (DAS Server)

#### STORAGE

Interface	3.5" SATA HDD	
Hard disk trays (bays)	24 pcs	44 pcs
Storage capacity	24 x 10TB	44 x 10TB
RAID level	Depending on the host	

#### POWER

Voltage	100~240 Vac, 50-60Hz	
Redundancy	Yes	
Avg. consumption	120W	98W

#### ENVIRONMENT

Operating temp / Humidity	5°C~35°C (41°F~95°F) / 8%~90% (non-condensing)	
Storage temp / Humidity	-40°C~70°C (-40°F~158°F) / 5%~95% (non-condensing)	

#### MECHANIC

Chassis	4U rackmountable chassis	
Dimensions / Weight	437mm(W) x 178mm(H) x 660mm / 34 Kg	437mm(W) x 178mm (H) x 699mm / 43.09 Kg
Certification	CE & FCC	

### Ordering Information:

Sr. No	Model	Channel
1.	SR-NF32FK02	16 Ch
2.	SR-NF32FK02	32 Ch
3.	SR-NF32FK02	64 Ch