

# Tyrone<sup>®</sup>



milestone

TECHNOLOGY  
PARTNER

## Video Surveillance Solutions





**Tyrone**<sup>®</sup>

## OUR PRODUCTS

### SERVERS

- ✓ Video Recorder Servers
- ✓ Video Recorder Storage Servers
- ✓ Video Analytics Servers (GPU Based)

### WORKSTATIONS

- ✓ Viewing Workstations
- ✓ AI-Ready Workstations

### STORAGE

- ✓ Petabyte Storage Solution
- ✓ Unified File + Block Storage
- ✓ Unified Block Storage

# Your Search For A Complete Surveillance Solution, Ends Here

With a large-scale video surveillance network, maintaining reliable operations can become complex. Video Surveillance Solutions from Tyrone Systems can help overcome these problems. It's ideal if you have multiple sites and want one, open-platform video surveillance system so you can focus on your business operations.

The rapid evolution of technology such as analog to digital switchover, 10 Gigabit Ethernet networking, and high-density storage, has made the widespread adoption of video surveillance possible, with projects scaling from hundreds to thousands of cameras, pushing the limits of scaling for traditional storage systems.

As a solution partner, Tyrone Systems has the technology, know-how, and experience to help you develop the right architecture for your important surveillance workloads and the right technology for innovation in your environment. And with a scalable, flexible and modern architecture at its core, Tyrone Storage can play a vital role in helping you run your complex business efficiently and securely.

With a global footprint in over 7 countries, Tyrone has been transforming the storage and computing space with Servers, Workstations, Storage, HPC, Big Data and Cloud solutions for over two decades.

## Why Tyrone Systems?

- End-to-end solution development, delivery & support.
- Our customization plan takes your future upgradability into consideration.
- Equips customers with the latest and optimal technology blocks to achieve their business goals.
- Partnership with leading technology companies.
- Delivers robust Video Surveillance Storage that offers revolutionary storage density.

# VIDEO RECORDER SERVERS

**Tyrone**<sup>®</sup>  
**CAMARERO**<sup>®</sup>

Tyrone Recorder Servers are designed to meet the demanding needs of small to high-end surveillance applications.

50-200  
Cameras



## Entry-Level

Increase performance and ability to scale with an entry-level single socket 1U rack server.



200-500  
Cameras



## Professional Level

Adapt to a variety of surveillance demands with dual socket, 2U rack server that offers an ideal balance of resources and affordability.



500-1000  
Cameras



## Enterprise Level

This high density server offers 24 hot swappable drive bays which results in low foot print in the server room.



## Features & Benefits



### Easy to install & operate

The server manages all cameras on the network. 100's of clients can view, control, store & retrieve.



### Powerful Performance

Servers built around high-performance latest generation Intel<sup>®</sup> Xeon Scalable processors.



### Flexibility

A wide variety of server configuration lets you pick the right-size solution for your project.



### Security

It provides a secure distributed & expandable storage for all network-attached cameras.

# VIDEO RECORDER STORAGE SERVERS

**Tyrone**<sup>®</sup>  
**CAMARERO**<sup>®</sup>

Tyrone recorder storage servers come with superior storage capacity optimized for video streaming.



**24** Bay 4U Rackmount Server

Ideal for file sharing, backup and file synchronization, as well as remote access for surveillance and more



**36** Bay 4U Rackmount Server

Ideal for media storage, remote access, archiving data and several other surveillance applications



**60** Bay 4U Rackmount Server

Consistent high performance optimized for artificial intelligent systems' and read-intensive surveillance applications.



## Designed for Surveillance

A full range of servers optimized for HD Video Surveillance to meet any requirement and budget.



## Unparalleled Reliability

Advanced RAID 5 technologies eliminate the loss of video due to a disk failure.



## Network Bandwidth

Dual network connections allow cameras to be connected to a separate segment of your LAN.



## Tailored To Your Requirement

Any size, Any Industry. We have a system for every project needs.

## Perfect for Deep Learning based Video Analytics

You need high performance GPU servers to handle huge data from the surveillance sites to produce even better trained data models every day. After deploying trained models, edge inference systems can also leverage the GPU to make inference accuracy and prediction in real-time possible.

### Applications Include

- > Facial Recognition
- > Intrusion Detection
- > Footfall statistics
- > Traffic & Parking Management
- > License Plate Verification
- > Heat Mapping



#### PERFORMANCE

Up to 960 TFLOPs FP16 performance in a single supersaver



#### SCALABILITY

Designed for direct interconnections between multiple GPU nodes



#### THROUGHPUT

Best in class GPU-to-GPU bandwidth with a maximum speed of 300 GB/s



#### FLEXIBILITY

PCI-E 3.0x16 for low latency I/O expansion capacity & GPU direct RDMA support



#### DESIGN

Optimized GPU cooling for highest sustained parallel computing performance



#### DENSITY

Unparalleled system density (up to 4 GPU's in 1U server)



PERFORMANCE with GPU

DOUBLE-PRECISION  
**7.8** TFLOPS

SINGLE-PRECISION  
**15.7** TFLOPS

DEEP LEARNING  
**125** TFLOPS

Up to  
**13x**  
Reduction in TCO

# VIEWING WORKSTATIONS

**Tyrone**<sup>®</sup>  
**CAMARERO**<sup>®</sup>

## High-performance Viewing Workstations, optimized for your Surveillance System

The video workstation is the delivery point of any video surveillance system, and it is critical that the video delivery viewing experience is high quality. Tyrone Camarero workstations set the industry standard, delivering in both computing and decoding performance, reliability, and affordability.

### VIDEO OPTIMIZED

Flexible tower design puts the power of live video surveillance monitoring wherever you need it. And a full 1200W of power ensures smooth operation.

### GPU ACCELERATION

Harness the power of Nvidia latest GPU with 2500 Cuda Cores and 8GB's of DRAM to seamlessly support 64 HD video streams and either 2x or 4x HD monitors. (Monitors not included)

### POWERFUL

With 2nd Generation Intel<sup>®</sup> Xeon<sup>®</sup> Scalable Dual Socket Processors

### Full H.265 support

Tyrone workstations have the most comprehensive support for H.265 enabled cameras on the market.



### Key Features

- ✓ 4TB DDR4-2933MHz memory in 16 DIMM slots
- ✓ Support CPU TDP up to 205W
- ✓ Multiple GPU support
- ✓ Up to 6 PCI-E 3.0 x16 slots
- ✓ High Efficiency power supplies
- ✓ Flexible storage options

# PETABYTE STORAGE SOLUTION

**Tyrone**  
COLLECTIVO

Fast, Reliable Video Storage Solution that manages Petabytes of video data.



Whether you've got 100 or 10,000 cameras. With the ability to massively scale, Collectivo is designed to fit a wide range of customer applications where unmatched fault tolerance and system integrity are mandatory.

**Petabyte Scalability:** Supports multi-petabyte repositories.

**Performance:** Delivers fast file access & eliminates I/O bottlenecks.

**Protection Of Data:** Automated self-healing storage resource pool

**Reliable:** Designed to have no single point of failure

**High Density:** 45 drives in a 4 RU/60 drives in 4 RU chassis

**Data Accessibility:** Multi-protocol access- ( Fuse,NFS,SMB )



SCALE-OUT



UNIFIED NAS



DATA PROTECTION



HIGH PERFORMANCE



**SS40012E1-445RL**

45 Bay High Density Brick

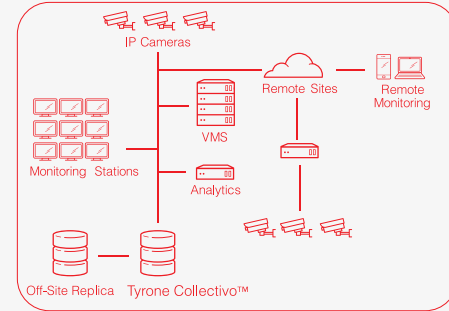
- > 4U Rackmount
- > Intel® Xeon® Scalable Processors
- > Capacity: Upto 576 TB per box



**DS40012E1-460RL**

60 Bay Deep Archival Brick

- > 4U Rackmount
- > Intel® Xeon® Scalable Processors
- > Capacity: Upto 800 TB per box



Collectivo Surveillance Workflow

Duo Mode



Single Mode



Brick & Disk level redundancy

Ultimate level of data protection

Disk level redundancy with RAID support

Excellent solution for storing large volumes of data at a lower cost



# UNIFIED FILE + BLOCK STORAGE SOLUTION



opslag<sup>TM</sup> FS2 VERTA

A Unified Storage Solution flexible enough to adapt to your requirement.

With Opstag FS2 you can “pay as you grow” from a few terabytes to 100+ petabytes for long-term storage investment protection. Perfect not only for compressed video workflow environments but ideal for low-cost backup/archive applications.

Opstag FS2 series comes with high-availability dual controllers. Expansion units can start from 2U24 small form factor to large form factor 4U24 and up to the high-density 4U60 with JBOD expansion options.



DEDUPE



DUAL  
CONTROLLER



COMPRESSION



ACCELERATION



UNIFIED  
STORAGE



REDUNDANCY



SCALABILITY

## SPECIFICATIONS

- ✓ 4GB/s Bandwidth
- ✓ 576 TB in Single 4U Enclosure
- ✓ 5+PB Scalability
- ✓ Native InfiniBand Support (SRP/NFS over RDMA)
- ✓ All-in-one-solution (NAS/FC/iSCSI/SRP/VTL)

**FLUID OS**  
Developed by Tyrone

## KEY FEATURES

### Simplify Your Storage Environment

- > Consolidate SAN and NAS Workloads on the same storage solution.
- > Hybrid interface allows concurrent FC & iSCSI connection for SAN as well as NAS protocols.

### Superior Performance

- > Accelerate enterprise applications
- > Reduce latency & speed operations with up to 50% higher performance

### Impressive Scalability

- > Massively scale over 5 PB
- > Multi-tiered Storage
- > Flexible Networking options:  
1G/10G/40G/100G FC/Infiniband/Omnipath

### Eliminate Downtime

- > Fully redundant design for enterprise
- > Available in Single and Dual controller
- > Upgrade & expand without downtime

# UNIFIED BLOCK STORAGE SOLUTION



Highly reliable, scalable and affordable SAN storage system.

Tyrone OpSlaG Unified Block series of products are high performance, simple, secure, scalable and affordable SAN storage systems for enterprise and SMB. It is an ideal solution to the applications of large-scale surveillance and also, backup and disaster recovery in enterprises or Remote deployments.

The series features a wide range of form factors including a 24-bay, 4U 3.5" LFF chassis, 3U 16-bay, 2U 12-bay, and a 26-bay, 2U 2.5" SFF chassis. This design allows this series to withstand multiple component failures and achieve 99.999% availability.

## Thin Provisioning

Only uses the space on a volume that has data written to it



## Automated Storage Tiering

Meets service level requirements by optimizing the utilization of HDDs, SSDs, and RAID levels



## Snapshot

Supports incremental backups to save storage space.



## KEY FEATURES

- > High Performance SAN storage system with Dual (Active/Active) controller
- > High availability design with no single point of failure
- > Intel® Xeon® D-1500, Quad core processor, up to 128GB RAM per controller
- > Latest 12Gb SAS 3.0 technology
- > Built-in 10GbE iSCSI
- > Up to 12,000MB/s sequential read
- > Up to 8,000MB/s sequential write throughput
- > Up to 1.5 million sequential IOPS
- > Scale up solution supports over 2.6PB of raw storage capacity
- > Advanced Storage Management
  - Thin Provisioning
  - SSD Cache (read and write cache)\*
  - Auto Tiering\*
  - Snapshot
- > Flexible I/O host cards for iSCSI SAN or FC SAN
- > Remote replication for disaster recovery
- > Cache-to-Flash memory protection technology

# Tyrone Systems at a Glance

# Tyrone®



Manufacturing / Design /  
Development Team



Pre-Sales Team



Post-Sales  
Tyrone Care Team

PRESENCE IN  
MORE THAN  
12 COUNTRIES

Over  
**7,000**  
customers

Over  
**400**  
SUCCESSFUL  
**HPC**  
INSTALLATIONS

DEPLOYED  
over 1000  
**GPU**  
BASED SYSTEMS

  
CLOUD  
Deployment in  
5 countries

INDIA'S  
FASTEST  
HYBRID  
SUPER  
COMPUTER



Several **BIG DATA**  
deployments in Telecom,  
ISP, Consulting &  
Education sectors



**PIONEERS**  
IN SAS BASED-  
SAN STORAGE  
SOLUTIONS



**1<sup>st</sup>**  
IN THE WORLD  
TO DEVELOP  
**INFINIBAND BASED  
UNIFIED  
STORAGE  
SOLUTION**



**INNOVATION**

**WORLD-CLASS  
PRODUCT  
ENGINEERING TEAM**  
Ongoing investments in  
Research & Development

Largest local Server  
vendor in South East  
Asia

Failure ratio lower  
than industry average

Associated with the  
largest academic  
clusters in the region

200+ EMPLOYEES  
2 INTEGRATION FACILITIES

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## Let's Talk

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