



Case Study:

Zero Downtime achieved with Tyrone Unified Storage Solution

Well known GPS Maps Navigation service provider entrusts Tyrone Opslag FS2 unified storage platform for their storage needs as it offers them high performance, scalability and flexibility

CHALLENGE:

- Required storage solution to have large storage capacity, can deliver high performance and has scalability to meet their future requirements.
- Wanted to eliminate any storage related downtimes so their development team can be more productive.
- Wanted a storage solution that could be used as NAS as well as SAN with block-level access.
- Sought a solution that could make them future-ready and provide flexibility in terms of technology options.

SOLUTION:

- Opslag FS2, a unified storage solution from Tyrone Systems was chosen by the company.
- The solution ensures that company's developers get high performance and high availability with zero downtime.

BUSINESS RESULTS:

- Since one and half year from the deployment, there have been no storage related downtimes for the company.
- Developers do not face lag anymore while accessing maps from the storage device.
- The company can expand upto 256 HDDs in their storage solution as Opslag FS2 supports JBOD.
- Savings in terms of licenses, as Opslag FS2 is one time purchase model, and isn't bounded by licenses fees for any future upgrades or storage expansion.

DEPLOYMENT ENVIRONMENT:

- Two identical Opslag FS2 boxes having 24 HDD bays, 4 Gigabit ports, 10 x 2TB HDDs configured on RAID 5 on each of the two unified storage boxes.
- Both identical units configured for replication and failover, and have

EXECUTIVE SUMMARY

Customer Name:

India's premier GPS Maps Navigation Service provider

Zero Downtime Achieved With Tyrone Unified Storage Solution

10Gig Ethernet as interconnect between the two Opslag FS2 boxes.

- Each box configured with 2 volumes, one for development work and other for the compiled maps which are accessed by the company's consumers.

TYRONE OPSLAG FS2 UNIFIED STORAGE

- FS2 is a unified storage solution that offers high performance, high availability and flexibility through multiple configuration options as the storage box supports variety of protocols and interconnects.

For complete information on Tyrone Opslag FS2 unified storage, visit <http://www.tyronesystems.com/unifiedstorage.html>

The company is a well known name in India for providing GPS based navigation solutions. They have service offerings and products catering to a varied range from end-consumers to enterprises.

Challenges:

For providing reliable and accurate navigable maps in a country with varied landscape, it becomes inherently important to keep navigational maps updated all the time. Developers at the company continuously updated the navigable maps dataset for all India and made them available for their consumers. The storage solution on which the company used to rely on was a Windows 2003 Server based NAS solution that had 4TB storage configured on RAID 5, and it could at max sustain 30 user requests at a time. As the developer strength was growing with the company, the storage system was not able to handle the increased load as the throughput was low. The developers who accessed the maps stored in the NAS faced delays and that hampered their productivity. The storage system would also crumble down due to heavy traffic demands, both from their developers as well as their subscribers. To eliminate downtime and to have a robust storage solution, the company decided to implement a storage solution that could meet their following requirements:-

- **Large Storage:** : They kept a future-ready vision, and thus wanted the storage solution not just to be used for development and production maps, but for any future database requirements such as E-Mail archive and storage.
- **High Performance and Availability:** They couldn't afford to have any downtimes related to storage solutions, since their development and production maps are on the same storage solution but on different volumes. They also required the solution to support large number of users who could have a seamless access to the storage without facing any delays or lags.
- **Scalability and Flexibility:** The solution had to be scalable enough to meet the company's future requirements and should also provide them flexibility to use the solution as NAS or as block-level storage.
- **Cost Effective:** With requirements of flexibility and expandability, comes the additional cost of licenses. The company wanted to opt for a cost-effective solution to meet their requirements.

In all MapMyIndia required a solution that would be easy to own and future-proof.

Solution:

One of the requirements by the company was that the solution should support NAS as well as Block-Level access functions in a single storage platform; therefore Tyrone Opslag FS2 Unified Storage solution was evaluated. Since the company wanted high-availability they went in for two identical units of Opslag FS2 with replication and failover set between the two units. So, in case of any catastrophe if one of the storage box fails, the other box kicks in automatically, thus the data remains available. As Opslag FS2 provided breadth of features that met the

Zero Downtime Achieved With Tyrone Unified Storage Solution

company's requirements it resulted in its eventual selection and implementation. Below are some of the reasons why the company chose to go for Tyrone Opslag FS2 unified storage solution:-

- With 24-bays in the storage box; the company now has option to have as many HDDs to have a large storage capacity. Presently they have populated each of the two boxes with 10 x 2TB HDDs giving them 20TB storage on each box. In future they populate all 24-bays to expand the storage capacity.
- Opslag FS2 supports multiple protocols and technologies that results in multiple configurations possibilities. For instance, with JBOD support they can extend the box storage capacity with additional box expansion going up to 256 additional HDDs. With support for InfiniBand, 10 Gig Ethernet and Fiber Channel, there is flexibility of Interconnect options between the two or any additional Opslag FS2 boxes.
- Opslag FS2 supports high performance computing, and thus can handle higher number of simultaneous requests from upto 100-120 users at a time. The Gigabit ports of the storage box helps in delivering high throughput that results in eliminating downtimes.
- Tyrone Systems came up with an offering that was disruptive to its competitors as it offers a fixed price model and does not bounds the customer with any additional license fees for following:
 - **Storage Expansion:** Unlike other solutions that offered storage solutions based on storage capacity; and for any additional storage expansion in future require the customer to buy additional licenses from the vendor. Whereas, Tyrone Systems offers complete box as storage solution and user is free to use all of the HDD bays or just one depending on his requirement or need.
 - **Incremental Features:** As Opslag FS2 supports input-output unification, the user has flexibility option to choose between various interconnect technologies like 10 Gig Ethernet, InfiniBand or FC. Users just have to pay for the hardware upgrade for implementing any of the interconnect technology; since the storage box has the provision to support any of these features. Users do not have to pay any additional license fee for the same and hence are future-ready with no additional cost burdens.

Benefits:

The ideal mix of comprehensive features and lower cost of ownership for Tyrone Opslag FS2 has helped the company to meet all their expectations from the unified storage solution. Since one and a half year of deployment, the company hasn't faced any downtime due to storage related issues.

- **Cost:**
 - As pricing model of Tyrone Systems is inclusive of all licenses for all the features available within the box, the company was able to save considerable amount when similar feature products of competitors were compared on price front. This allows the company to have upgradable and expansion options available to them without any cost implication for licenses of incremental features.
- **Future-Proof:**
 - The company wanted to have a storage solution that could meet their future requirements for storage expansion as well as for future technology upgradation. Opslag FS2 caters to these demands and provides flexibility

Zero Downtime Achieved With Tyrone Unified Storage Solution

for multiple configurations options through its in-built support for multiple interconnect technology and protocols.

- The provision for block level access in Opslag FS2 Unified Storage solution opens up possibilities for the company to use the storage box as SAN for transactional heavy applications like email servers.
- **High Performance and Availability:**
 - Developers accessing the storage box now do not face any delays and their productivity has improved compared to earlier setup.
 - As the two storage boxes have been configured for failover and replication; this has improved the infrastructure reliability by eliminating downtimes.