

The introduction of multi-tiered arrays, alongside flexible cloud-based storage, has resulted in some organisations not being able to meet their future business requirements. Similarly, issues with an existing platform can have a significant impact on data centre performance, resilience and availability which may affect business operations. RAID sets (redundant array of independent disks), optimisation, distribution and allocation of storage can change dynamically. This leads to workloads, data and services being hosted on incorrect, inappropriate, or even degraded, storage arrays, which in turn, can lead to unpredictable performance, service deterioration and, in some cases, total data loss.

Ultima can provide a comprehensive review, to ensure that your underlying storage infrastructure is running optimally - and in accordance with vendor best practice. Ultima will provide visibility of the configuration, condition and performance of your existing SAN (Storage-area Network) or NAS (Network-attached Storage), alongside aspects such as data resilience, redundancy and security. We will document the risks and issues associated with misconfiguration, storage constraints, data locality, high availability and disaster recovery. Finally, we will look at housekeeping tasks and unused features which may be adopted to better maintain the system.

### Scope

Ultima's storage review covers NetApp, HPE, EMC, Nimble and Dell arrays, interrogating the following aspects of your SAN to ensure they are configured optimally:

- Controller performance, utilisation & RAID configuration
- Data locality, tiering, deduplication and reclamation
- Disk / SSD performance
- Storage networking
- Storage resilience and data consistency
- Data snapshots and replication

### Engagement Approach

We adopt a simple, but effective, four stage process, allowing us to interrogate your SAN / NAS and deliver vendor best practice recommendations regarding issues facing your data centre. This structured engagement provides forensic analysis of your data centre and articulates findings to key stakeholders.

### ➤ Step 1 - Analyse

Our consultant will lead a planning call to agree the scope and objectives of the review and produce a schedule of engagement. Once completed, we will use existing tools and processes to review the following aspects of your storage platform:

- **Controller Configuration** - cabling, OS versions, cache setup and controller failover
- **RAID Configuration** - covering RAID groups, capacity review and volume distribution
- **Storage Performance** - including RAID performance, controller performance, controller CPU and memory
- **Data Change** - storage group reads / writes and data change per volume
- **Deduplication and Space Reclaim** - including disk zeroing, thin provisioning and compression
- **VM Integration** - storage plugin configuration, snapshot types, frequency and retention
- **Storage Networking** - controller networking, configuration, multipath and storage network capacity / performance
- **High Availability and Disaster Recovery** - controller and storage clustering, replication, backup, as well as RTO (recovery time objective) and RPO (recovery point objective)

### ➤ Step 2 - Review

We will examine the data to ensure optimal configuration and consistency as per best practice, while capturing, qualifying and prioritising issues which may impact business operations, alongside identifying areas where the service could be optimised. Our assessment includes the following:

- Qualify issues and operational challenges affecting the data centre
- Identify the existing storage architecture (current operating model), establishing how the technology is currently being used
- Review single points of failure, alongside high availability and disaster recovery readiness
- Check the overall system health to ensure key services are operating correctly
- Qualify any issues currently being experienced with the service and identify potential resolutions
- Create a performance baseline and make recommendations regarding future optimisation
- Analyse the functional requirements in place and confirm whether they have been implemented in accordance with best practice
- Check the current component versions, vendor supportability and potential upgrade roadmaps
- Confirm the licensing position and determine if further value can be gained from the existing entitlement

### ➤ Step 3 - Define

The ability to understand precisely what's going on inside your data centre, is as important as diagnosing the issues or threats facing it. Ultima's comprehensive service improvement report will provide your organisation with the following insight:

- Management summary highlighting key risks, issues, recommendations and a prioritised list of next steps
- Outline RAID and volume details including data usage, performance and incorrect RAID assignments
- Production of a configuration document outlining the controller setup, alongside proposed enhancements or reconfiguration
- Detail data reclamation options, structuring and replication / backup optimisations
- Document the high availability and disaster recovery configuration at the storage level, alongside misconfigured services and volumes
- Summarise the potential threats to the SAN or NAS, which may affect service operations

### ➤ Step 4 - Present

Ultima will email the report for review, before presenting the management summary to your team via Skype. We will drill down into the headline findings, including the risks, issues and recommendations made regarding your storage platform. You will have the opportunity to ask questions, receive advice and plan for potential next steps, including potential remediation activities.

### Storage Review Summary

#### Key Benefits

- Regain control and peace of mind over your storage
- Flexible engagement from a leading storage partner
- Delivered by a vendor-qualified storage consultant
- Help prevent critical failures and performance degradation
- Capacity and configuration review
- Confidence to make changes to production systems

#### Prerequisites

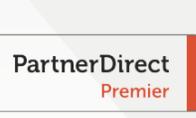
- Support at management and technical levels
- Administration access to systems in scope for review
- Schedule of engagement, outlining the scope

#### Key Deliverables

- Comprehensive service improvement report
- Consultant-led walkthrough, outlining the issues found, alongside the prioritisation of next steps
- Option of on-going consultancy to remediate issues

#### Typical Duration

4 Days



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