

# HPE IT Performance Services Suite—Analysis

## Performance Analysis: Storage

### Trigger points

- Need to get a baseline on the storage system performance
- Need to document and optimize the distribution of I/O requests and disk space
- Need to identify hot spots
- Performance bottlenecks on connected databases and applications
- Plan to add additional systems to the storage
- Extension of storage system planned
- Demand to have a before and after comparison in conjunction with infrastructure or application changes

### Description

The purpose of this service is to provide a good understanding of the storage disk array performance and capacity situation. It identifies performance gains that may be available and outlines actions that can be taken to improve the storage performance.

This service provides a detailed report and analyzes business-critical performance metrics of the **HPE Storage system**. It visualizes resource consumption and potential bottleneck situations and helps planning for future capacity demands. The following storage systems are covered—HPE XP Storage, HPE EVA Storage, HPE 3PAR StoreServ, **HPE XP7 Storage**, and HPE StoreVirtual.

### Benefits

- Visualizes utilization of storage hardware with data such as:
  - Requests, throughput, response times, and latency
  - Utilization and distribution of controller, nodes, clusters, front- and back-end components, cache, RAID groups, and more
  - Response time behavior of virtual disks, cluster, nodes, and volumes
  - Disk group configuration and utilization
- Provides transparent view of resource utilization
- Maps against system resources (connected hosts) and application resources (databases or ERP application)
- Provides information for capacity planning and utilization:
  - Supports decisions on system extensions
  - Illustrates load distribution over time
  - Lists top resource consumer

- Helps to increase end-user satisfaction
- Enhances and fine-tunes utilization of available hardware resources and system throughput
- Supports future performance evaluation by “baselining”
- Fulfills SLAs and performance agreements as independent assessor

### Deliverables

- Service preparation meeting (remote) defines individual starting point, aspects, and goals
- Instructions for installation, configuration, and execution of the required data collection scripts and programs
- Remote support during the configuration of the data collection
- Detailed analysis and correlation of all collected performance data
- Written report includes graphical evaluation of the collected data, analysis of current situation, and recommendations (action plan), including management summary and rating
- Final presentation and explanation of findings (if required, it's done remotely)

### In summary

HPE IT Performance Services—Analysis when used for Storage helps customers to make performance predictable, which recognizes the impact of changes early. It also actively manages the customer's IT performance to support business in achieving its goals. If, by any chance, a performance issue occurs in the surveilled system these results assist in resolving the performance incident quickly and efficiently.

## HPE Performance Services in brief

In today's world, business outcomes are a direct result of IT providing high availability and good performance

### Customer requirements

- Agile responses to changing markets force business and IT to anticipate changes
- Execute changes quickly and without failure, while sustaining ongoing operations
- Business-critical IT must run reliably and predictably within the requirements defined by that business
- Complexity is rising as many IT components have to work together flawlessly (for example cloud, OpenStack®, and others)

### Customer challenges

- Insufficient performance is binding resources, which prevents business agility and hinders the business from performing
- Highly skilled performance experts are not available or are high-cost individuals to hire from a financial point of view
- Performance demands are individualistic and differ for every business or customer; they need to be defined by service-level agreements (SLAs)
- A severe performance problem can result in an application being unusable

### When are HPE Performance Services needed

- Bad performance, increasing waiting time
- End-user or customer complaints
- Performance issues or escalations
- Business transformation projects
- Rolling out new technology
- IT teams investigating performance instead of focusing on their core topics
- Complex IT situations such as idea economy, **cloud solutions**, **hybrid cloud**, and more
- Upcoming migrations and IT changes
- Need for predictable and reliable performance metrics

### How HPE Performance Services can support (benefits)

- Careful evaluation of the current situation
- Sophisticated approach to tackle the performance-related challenge
- Precise and careful investigation by a specialist, a real subject-matter expert
- Written report with detailed findings with precise recommendations to solve the performance issues a customer is facing
- Effective and efficient way to solve a customer's performance problem

## Customer example | HPE Superdome X shows poor performance after production start

### Situation



- Major market and consumer research company serving many clients worldwide
- POC had shown exceptional performance and scalability of HPE Superdome X
- After production starts, significant performance degradation was observed for a critical business process step

### Impact

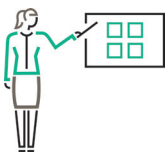


- Customer IT team was busy for three days trying to solve the problem on its own, with other vendors, but without success
- Customer was not able to fulfill contractual obligations toward its clients
- Significant financial loss due to penalty fees

### Solution by HPE Performance Services




- In less than one day Hewlett Packard Enterprise found the solution
- An analysis with an HPE proprietary tool (kitrace) was done
- A problem in RHEL 6.7 memory management was identified and a workaround could be applied



### Result: Now, HPE Superdome X is showing great performance since the identified workaround on OS level was applied

- After multiple days of struggle an HPE performance consultant was engaged, and the consultant solved the issue in less than one day
- The customer operations returned to normal soon after the solution was provided
- High satisfaction with the HPE provided infrastructure and with the HPE Performance Services team

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### Resource

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