



HelioStor – Remote Services Catalogue

HELIOSTOR REMOTE SERVICES

- ✓ INSTALLATION SERVICES
- ✓ FASTSTART MIGRATION SERVICE
- ✓ MIGRATION DESIGN & PLANNING
- ✓ BLOCK MIGRATIONS
- ✓ FILE MIGRATIONS
- ✓ CLOUD MIGRATIONS
- ✓ FABRIC MIGRATIONS
- ✓ WORKLOAD MIGRATIONS
- ✓ ASSESSMENTS
- ✓ TROUBLESHOOTING SERVICES
- ✓ CONSULTANCY SERVICE
- ✓ RESOURCE AUGMENTATION

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HELIOSTOR REMOTE SERVICES Introduction

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- ✓ BLOCK MIGRATIONS
- ✓ FILE MIGRATIONS
- ✓ CLOUD MIGRATIONS
- ✓ FABRIC MIGRATIONS
- ✓ WORKLOAD MIGRATIONS
- ✓ ASSESSMENTS
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- ✓ CONSULTANCY SERVICE
- ✓ RESOURCE AUGMENTATION

To enable end-to-end IT integration, HelioStor offer technical and professional Installation and Migration services, meeting customer needs with best in class delivery.

These services aim to help you avoid risk, minimize cost, meet your business objectives and get the optimum return on investment.

With a sound and proven methodology starting with consultation, HelioStor technical experts can walk customers through the project from end to end, so they can focus their attention on their business needs.

Our Professional Services team have the capability to leverage our partners in project engagement by providing these value-added solutions ranging from pre-Sales activities to technical implementation services.

This enables us to deliver reliable and scalable solutions, which in turn lowers the total cost of ownership, providing a robust ROI on your IT investment. This professional consultancy service also ensures that customers get the adequate support that they need.

We can integrate with existing teams to alleviate workflow issues or grow your own team and transition over new skills. With proven delivery across all aspects of data centre infrastructure, offering delivery models from fixed price project delivery to T&M resource augmentation, we exceed customer expectations time and time again.

We have a wealth of experience drawn from working with leading companies in all industry sectors including financial services, government agencies, manufacturing, media, petrochemicals, retail, telecommunications and utilities.



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- ✓ FASTSTART MIGRATION SERVICE
- ✓ MIGRATION DESIGN & PLANNING
- ✓ BLOCK MIGRATIONS
- ✓ FILE MIGRATIONS
- ✓ CLOUD MIGRATIONS
- ✓ FABRIC MIGRATIONS
- ✓ WORKLOAD MIGRATIONS
- ✓ ASSESSMENTS
- ✓ TROUBLESHOOTING SERVICES
- ✓ CONSULTANCY SERVICE
- ✓ RESOURCE AUGMENTATION

Installation Services

Dell Storage remote installation

FastStart Migration Service

Packaged service to plan, document, knowledge transfer and start migration activity

Migration Design and Planning Workshop

Migration Workshop

Block Migrations

Block Migration Services

File Migrations

File Migrations

Cloud Migrations

Cloud Migrations

Fabric Migrations

Fabric Migrations – where hardware racking and cabling is taken care of by customer

Workload Migrations

Workload Migrations

Assessments

Audit Analysis/Infrastructure Health – qualify areas

Cloud Migration Readiness

Troubleshooting Services

Emergency Troubleshooting – qualify areas

Resource Augmentation

Server, Storage and SAN operational support



HelioStor – Services Catalogue

Installation Services

HELIOSTOR REMOTE SERVICES

- ✓ INSTALLATION SERVICES
- ✓ FASTSTART MIGRATION SERVICE
- ✓ MIGRATION DESIGN & PLANNING
- ✓ BLOCK MIGRATIONS
- ✓ FILE MIGRATIONS
- ✓ CLOUD MIGRATIONS
- ✓ FABRIC MIGRATIONS
- ✓ WORKLOAD MIGRATIONS
- ✓ ASSESSMENTS
- ✓ TROUBLESHOOTING SERVICES
- ✓ CONSULTANCY SERVICE
- ✓ RESOURCE AUGMENTATION

Dell Storage Services – Remote Installations

Catalogue entry

Deployment

- Remote installation

Overview:

Installation and upgrades by accredited Dell Storage Engineers.

Delivery:

1. Certified remote initial software configuration of Dell Storage Platforms
2. Knowledge transfer

Dependencies:

1. Array already racked and stacked
2. Remote access to array over IP

HELIOSTOR REMOTE SERVICES

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- ✓ BLOCK MIGRATIONS
- ✓ FILE MIGRATIONS
- ✓ CLOUD MIGRATIONS
- ✓ FABRIC MIGRATIONS
- ✓ WORKLOAD MIGRATIONS
- ✓ ASSESSMENTS
- ✓ TROUBLESHOOTING SERVICES
- ✓ CONSULTANCY SERVICE
- ✓ RESOURCE AUGMENTATION

FastStart – Migration Services

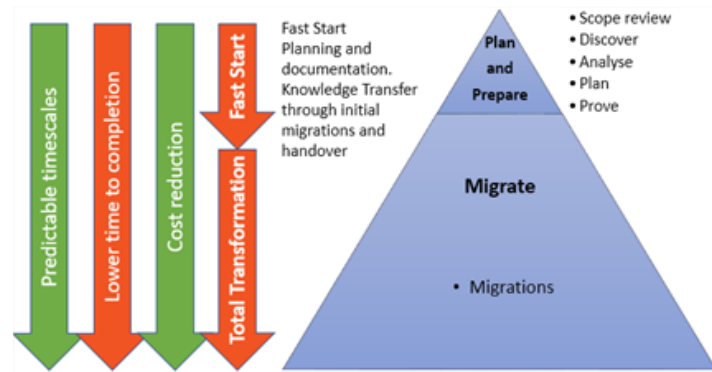
Catalogue entry

Deployment

- Packaged service

Overview:

Professional Services team to quickly migrate your customer's data to new infrastructure. Customer specific, documented processes are put in place which can be handed over to you or customer staff to complete the migrations. Our proven methodology removes the delays associated with skills gaps and resource availability and allows your customer to realise the benefits of their infrastructure sooner. Using a dedicated team of migration experts quickly pays for itself by accelerating progress onto new infrastructure and facilitating early disposal of the old.



Delivery:

We start the process by using a questionnaire to confirm the project scope and project cost. This questionnaire will form the input into the project kick-off session

Our team will take the environmental information provided by the customer to create key artefacts for the FastStart engagement, including: Migration Readiness Report, Remediation Report and Runbook Templates

A detailed Migration Schedule will be agreed, and the Runbooks populated. All required migration tools will be installed and configured

Our team will govern and deliver pilot migrations as agreed in the plan

During the pilot migrations your designated team will have opportunity to shadow and receive skills transfer in order to be ready to assume responsibility for the continuing transformation project

HELIOSTOR REMOTE SERVICES

- ✓ INSTALLATION SERVICES
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- ✓ MIGRATION DESIGN & PLANNING
- ✓ BLOCK MIGRATIONS
- ✓ FILE MIGRATIONS
- ✓ CLOUD MIGRATIONS
- ✓ FABRIC MIGRATIONS
- ✓ WORKLOAD MIGRATIONS
- ✓ ASSESSMENTS
- ✓ TROUBLESHOOTING SERVICES
- ✓ CONSULTANCY SERVICE
- ✓ RESOURCE AUGMENTATION

Migration Design and Planning Workshop

Catalogue entry

Deployment

- Migration Workshop

Overview:

The purpose of the Migration Design and Planning Workshop is to assist the customer in quickly deploying the new solution into operational use and therefore to achieve a faster ROI on investment.

This workshop asks questions around each aspect of your migration strategy and raises the questions that need to be answered for a quick, streamlined and risk-free migration.

Delivery:

A 2-hour workshop to take the customer through the deployment of workloads onto the new solution, achieving intended benefits, understanding the effect of the deployment, and any possible impact across other areas of the business.

For the most benefit, the customer will be asked to involve staff with the right skillsets to allow full discussion and proper understanding. This may include Storage, System and Database administrators, project managers, application owners and business representation.

Prepared for the task ahead:

- What challenges need to be addressed
- Migration readiness
- Meeting expectations
- Integrate the new infrastructure into operational processes
- the correct tools and processes to migrate data
- Resourcing requirements
- Required skillsets and how to fill the gaps
- What assistance is available

Overcoming obstacle to deployment:

- Detailed and timely Business Communication
- Clear Project Plans
- Early involvement of staff affected by the migration activities, i.e. Sys Admins
- The creation and use of detailed Runbooks to reduce risk and ensure repeatability



HELIOSTOR REMOTE SERVICES

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- ✓ MIGRATION DESIGN & PLANNING
- ✓ BLOCK MIGRATIONS
- ✓ FILE MIGRATIONS
- ✓ CLOUD MIGRATIONS
- ✓ FABRIC MIGRATIONS
- ✓ WORKLOAD MIGRATIONS
- ✓ ASSESSMENTS
- ✓ TROUBLESHOOTING SERVICES
- ✓ CONSULTANCY SERVICE
- ✓ RESOURCE AUGMENTATION

Block Migrations - Migration Services

Catalogue entry

Block Migration Services

Overview:

Block Migrations

Migrating Data using Storage Vendor tools can be the simplest option when migrating between same vendor arrays.

Host Based methods can be utilised effectively as an alternative, as can appliance-based virtualisation platforms.

HelioStor have the expertise to plan, design and facilitate storage migrations using any tools.

Using a dedicated team of migration experts helps to overcome the obstacles that slow down the adoption of new infrastructure:

- Business impedance
- Resistance to change
- Aversion to risk
- Skills gaps
- Resource availability

Delivery:

HelioStor Services will provide services to support pilot migrations plus data migration and host cutover events for the data for physical and virtual server environments.

HelioStor Services will provide project management for the data migration services on behalf of Customer.

The example Migration Plan on the following page includes typical activities:

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Block Migrations - Migration Services

- ✓ INSTALLATION SERVICES
- ✓ FASTSTART MIGRATION SERVICE
- ✓ MIGRATION DESIGN & PLANNING
- ✓ BLOCK MIGRATIONS
- ✓ FILE MIGRATIONS
- ✓ CLOUD MIGRATIONS
- ✓ FABRIC MIGRATIONS
- ✓ WORKLOAD MIGRATIONS
- ✓ ASSESSMENTS
- ✓ TROUBLESHOOTING SERVICES
- ✓ CONSULTANCY SERVICE
- ✓ RESOURCE AUGMENTATION

Activity

Project Initiation

- Confirm technical readiness
- Review Customer environment(s)
- Review Storage equipment
 - Review server storage requirements
 - Agree Storage configuration with Technical Architect
- Agree the following:
 - Scope of Migration project with Customer resources and confirm the details of host data to be migrated
 - Format of deliverables
 - Migration pre-requisites and dependencies
 - Migration activities and change windows
 - Success and acceptance criteria
- Admin Planning – agree project review meeting (timings and format) and project report format
- Establish points of contact and escalation
- Plan Data Migration Pilot Phase

Qualification / Proof of Concept Migrations

- Assist with installation and configuration of equipment in Engineering/Lab environment
- Execute pilot data migration events

Migration Execution

- Installation and configuration of equipment in Production environment
- Analysis of I/O profiles and path usage for migration planning
- Migration group creation
- Migration Monitoring
- Cut over hosts
- Provide regular status updates to the Customer Project Sponsor or designated representative

Decommission

- Data scrubbing (Optional)
- Removal of any installed equipment, Zoneset Clean Up

Project Closure

- Review Project deliverables, lessons learnt and sign off the project.



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- ✓ MIGRATION DESIGN & PLANNING
- ✓ BLOCK MIGRATIONS
- ✓ FILE MIGRATIONS
- ✓ CLOUD MIGRATIONS
- ✓ FABRIC MIGRATIONS
- ✓ WORKLOAD MIGRATIONS
- ✓ ASSESSMENTS
- ✓ TROUBLESHOOTING SERVICES
- ✓ CONSULTANCY SERVICE
- ✓ RESOURCE AUGMENTATION

File Migrations - Migration Services

Catalogue entry

Deployment

- File Data Migration

Overview:

All companies continually strive to keep their critical data on the latest technology. Yet, when a new storage platform is chosen, the transition from the old to the new is downright daunting, expensive, disruptive, complex, time consuming, and generally painful.

Using purpose-built NAS migration tools is proven to substantially reduce the time it takes to migrate to a new platform. Using old migration tools, the average NAS migration could be expected to take 6 months for 250TB, with purpose-built NAS migration tools, this can come right down to a few weeks. Saving massive operational and management costs as well as the overall migration project costs of a 6-month deployment.

Delivery:

Migration approach:

1. Deploy & Configure Migration Toolset
2. Discovery Phase
3. Data Migration
4. Cutover Windows
5. Finalize

HELIOSTOR REMOTE SERVICES

- ✓ INSTALLATION SERVICES
- ✓ FASTSTART MIGRATION SERVICE
- ✓ MIGRATION DESIGN & PLANNING
- ✓ BLOCK MIGRATIONS
- ✓ FILE MIGRATIONS
- ✓ CLOUD MIGRATIONS
- ✓ FABRIC MIGRATIONS
- ✓ WORKLOAD MIGRATIONS
- ✓ ASSESSMENTS
- ✓ TROUBLESHOOTING SERVICES
- ✓ CONSULTANCY SERVICE
- ✓ RESOURCE AUGMENTATION

Cloud Migrations

Catalogue entry

Deployment

- Cloud Migrations

Overview:

Cloud Migration Projects

- Physical or Virtual to the Cloud (X2C) and vice versa, e.g., moving a workload from an on-premise location to Microsoft Azure or Amazon Web Services

Anywhere-to-Cloud server migration

Most cloud migration tools support all the leading virtualization platforms including VMware, Microsoft Hyper-V, and various cloud platforms as migration targets. They also support a wide range of operating systems and hardware configurations.

Delivery:

Migration approach:

1. Deploy & Configure Migration Toolset
2. Discovery Phase
3. Data Migration
4. Cutover Windows
5. Finalize

HELIOSTOR REMOTE SERVICES

- ✓ INSTALLATION SERVICES
- ✓ FASTSTART MIGRATION SERVICE
- ✓ MIGRATION DESIGN & PLANNING
- ✓ BLOCK MIGRATIONS
- ✓ FILE MIGRATIONS
- ✓ CLOUD MIGRATIONS
- ✓ FABRIC MIGRATIONS
- ✓ WORKLOAD MIGRATIONS
- ✓ ASSESSMENTS
- ✓ TROUBLESHOOTING SERVICES
- ✓ CONSULTANCY SERVICE
- ✓ RESOURCE AUGMENTATION

Fabric Migrations

Catalogue entry

Deployment

- Fabric Migrations

Overview:

Migrating SANs either using the same vendor or from one vendor to another requires a specific plan that includes design, configuration, and implementation processes along with post migration analysis

Delivery:

When planning a SAN migration, there are several important factors to consider and actions to take that will ensure a smooth transition and future scalability.

- Assessment of Current SAN Environment
- Assessment of Current Power and Management Infrastructure
- Analyse any existing SAN issues
- Identify new additions to the fabric
- SAN Design (optional)
- Plan the migration path

Assessment of Current SAN Environment

Inventory all server and storage ports connected in the current fabric.

To get started, document every device on the existing fabric – whether it's a server, a storage array or a tape library; it all needs to be documented. Make a note of how many ports on the SAN each device takes, for example, a server with dual paths to its storage will take up 2 ports in the fabric. Make sure all cable labelling is correct. Identify critical servers and storage ports. ISL use (if applicable)

Assessment of Current Power and Management Infrastructure

Define the current power used for the existing SAN. Is there sufficient power currently feeding the existing SAN infrastructure? Are power feeds redundant. Identify if additional power will be required during migration (e.g. when both old and new SAN environments are powered up). Identify SAN Management Server, can this still be utilised to manage the new environment.

Analyse any existing SAN issues

Ensure that the current SAN is working properly. Confirm that what is running today is working properly. Identify and understand any existing performance issues.

Delivery (continued):

Identify New Additions to the Fabric

Hardware and Applications. Once we understand what is migrating from the existing or legacy SAN infrastructure, we need to also identify any new or unused hardware that might eventually be connected to your SAN. Are there servers that have been in existence but have not had SAN connectivity, and are now to be included in the new infrastructure? Is there new hardware coming that needs to be included? Storage, servers, or tape? What are the applications they are tied to? What are the requirements for these applications? Performance requirements, block size, etc. and do they need to be highly available?

SAN Design (optional)

Create new SAN Topology and Zone planning design if required.
Optimal layout of server and storage connections.

Plan the migration path

How to get the Zoning information onto the new SAN environment.

Will the configuration remain the same?

Use this opportunity to tidy up old zones if required.

Prioritize devices. Schedule moves so they will have the least impact on the production environment

Create plan for migrations, this will include a test plan and back out plan.

HELIOSTOR REMOTE SERVICES

- ✓ INSTALLATION SERVICES
- ✓ FASTSTART MIGRATION SERVICE
- ✓ MIGRATION DESIGN & PLANNING
- ✓ BLOCK MIGRATIONS
- ✓ FILE MIGRATIONS
- ✓ CLOUD MIGRATIONS
- ✓ FABRIC MIGRATIONS
- ✓ WORKLOAD MIGRATIONS
- ✓ ASSESSMENTS
- ✓ TROUBLESHOOTING SERVICES
- ✓ CONSULTANCY SERVICE
- ✓ RESOURCE AUGMENTATION

Workload Migrations

Catalogue entry

Deployment

- Workload Migrations

Overview:

Typical Workload Migration Projects

- Physical or Virtual to the Cloud (X2C) and vice versa, e.g., moving a workload from an on-premise location to Microsoft Azure or Amazon Web Services
- Virtual to Virtual (V2V), e.g., migrations from VMware to Hyper-V or vice versa
- Physical to Virtual (P2V) and vice versa, e.g., virtualizing a workload that's currently running on a physical server
- Physical to Physical (P2P), e.g., moving a workload from an outdated physical server to a newer model

Delivery:

Migration approach:

1. Deploy & Configure Migration Toolset
2. Discovery Phase
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HELIOSTOR REMOTE SERVICES

- ✓ INSTALLATION SERVICES
- ✓ FASTSTART MIGRATION SERVICE
- ✓ MIGRATION DESIGN & PLANNING
- ✓ BLOCK MIGRATIONS
- ✓ FILE MIGRATIONS
- ✓ CLOUD MIGRATIONS
- ✓ FABRIC MIGRATIONS
- ✓ WORKLOAD MIGRATIONS
- ✓ ASSESSMENTS
- ✓ TROUBLESHOOTING SERVICES
- ✓ CONSULTANCY SERVICE
- ✓ RESOURCE AUGMENTATION

Assessments - Audit Analysis/Infrastructure Review

Catalogue entry

Deployment

- Infrastructure Review

Overview:

The assessment approach can be summarized as:

- Information gathering
- Analysis
- Recommendations/Route to Fix

The standard assessment includes up to one hundred servers with connectivity to no more than three arrays. This selection should include a broad cross-section of the estate to ensure levels of criticality and host types are reviewed.

Examples of the types of information that can be gathered:

- **Host**
 - Standard Summary (O/S, prod, app, firmware, Multipathing, e.o.l. etc.)
 - Connectivity
 - Port errors
 - Load balancing
 - Multipathing
- **Cluster**
 - Standard Summary
 - Consistency
 - Failover
 - Site Recovery manager
- **SAN**
 - Standard Summary
 - ISL usage
 - Topology
 - Unused ports
- **Storage**
 - Standard Summary
 - Tiering
 - Dedupe
 - Performance
- **Management**
 - Multiple layers
 - Levels of automation (dev ops)
 - Performance
 - Security
- **Backup**
 - Standard Summary
 - Duplication
 - Backup windows – backup volume outgrowing windows
 - DR – tape offsite

HELIOSTOR REMOTE SERVICES

- ✓ INSTALLATION SERVICES
- ✓ FASTSTART MIGRATION SERVICE
- ✓ MIGRATION DESIGN & PLANNING
- ✓ BLOCK MIGRATIONS
- ✓ FILE MIGRATIONS
- ✓ CLOUD MIGRATIONS
- ✓ FABRIC MIGRATIONS
- ✓ WORKLOAD MIGRATIONS
- ✓ ASSESSMENTS
- ✓ TROUBLESHOOTING SERVICES
- ✓ CONSULTANCY SERVICE
- ✓ RESOURCE AUGMENTATION

Assessments - Audit Analysis/Infrastructure Review

- **Cloud readiness**
- **Environment**
 - Footprint
 - Physical
 - Carbon
 - Power

HelioStor will combine interviews of key personnel with data collection via native and bespoke tools, where appropriate. The elapsed duration of the engagement is typically 2 weeks.

The Result:

Once analysis of the data collected has been completed, a report will be produced which will contain an overview of the constituent parts of the three key areas outlined above within the environment:

- - Server and Application Infrastructure
- - SAN Infrastructure
- - Management

Benefits:

- **Reduced OPEX**
 - Simplified management
 - Integration
 - Automation
- **Reduced CAPEX**
 - Optimisation
 - Balanced workloads
 - Releasing orphaned/unused hardware or ports
- **Reduced risk**
 - DR consistency
 - Backup consistency - offsite
 - Supportability
- **Visibility**
 - Capacity analysis
 - Growth
 - Future proof

The report will detail the environment in relation to the assessed infrastructure, indicate growth potential, and highlight areas where Tiering and Virtualisation techniques may be used to reduce the required physical capacity and overall cost.

The assessment may also identify potential areas of concern within the confines of the assessed infrastructure and provide routes to fix where applicable.

Note:

The audit analysis is non-disruptive. No Issues are fixed during this exercise

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Troubleshooting Services

Overview:

The HelioStor trouble shooting service becomes invaluable when serious issues are making critical systems unstable.

Outages are seriously impacting the business and the stakeholders demand a course of action to identify the cause.

- Review end-to-end data traffic within the SAN for errors
- Determine if the issue is within the “infrastructure” (i.e. VM/Host, Fabric or Storage) or not.
 - Eliminate potential causes and isolate the most likely components
 - If the infrastructure is deemed clean and healthy, this will enable efforts to be focused up stream of the infrastructure (e.g. network, application, DB, etc)

Delivery:

- Root cause analysis
- Identify configuration errors
- Identify issues occurring in the infrastructure
- Identify performance bottlenecks
- Identify single points of failure

Resolving the issues identified can lead to:

- Improved performance and utilisation
- Balanced host and storage workloads
- Increased availability
- Reduced risk