

HIGH AVAILABILITY DATA CENTER

As businesses strive for high performance and greater differentiation in a highly competitive market, the impact of service downtime has increased and more stringent recovery objectives are demanded, leaving traditional high-availability solutions insufficient.

The industry trend of data-center consolidation for centralization of resources in the network, server, and storage areas, has contributed to the increase in the availability requirement for data centers. Additionally, regulatory compliance requirements for disaster-recovery and business-continuity have made data-center availability critically important to businesses today.

To meet these high-availability requirements, businesses tend to make substantial investments in multiple data-center facilities and infrastructure resilience, but fail to address the impact of processes and people on the high-availability solution. More than 30% of service loss can be attributed to human error and operational processes. Another critical factor is the manageability of the availability levels as the infrastructure grows and new business services are deployed.

In addition to encompassing state-of-art design and engineering services for the delivery of highly-available, scalable, efficient and manageable infrastructures, our solution addresses the operational and manageability aspects necessary to complement and sustain the high-availability environment. Our solution also incorporates a comparative financial impact (TCO/ROI) to ensure improved business performance.

The high-availability data center solution encompasses four major elements:

- **Disaster Recovery**—multiple data-center facilities to meet high availability objectives with an analysis of business risk versus associated costs
- **Resilience**—infrastructure resilience (network, storage, computing platforms, facility), application resilience (load balancing, clustering), and data replication and mirroring
- **Management**—capacity and performance management, and automated service provisioning to sustain the high availability levels
- **Operations**—operational processes and business-continuity planning

The ThruPoint high-availability data-center solution includes three distinct but interrelated service disciplines—infrastructure, organization and process, and applications:

- **Infrastructure**—the supporting technologies, including the underlying network transport, communications, storage, computing platforms and facilities



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- **Organization and Process**—the people, policies, procedures and tools that form the operational model to provision, administer, monitor, manage, and maintain the high-availability infrastructure
- **Applications**—the software tools and programs with which end users interact with each other, with other applications, and with partners to conduct and document business activities

The benefits of our **high-availability data center** solution include:

- Increased service availability with clearly-defined failure recovery objectives
- Reduced downtime, mitigating loss of revenue, productivity, and reputation
- Lower costs resulting from efficient utilization of data center facilities and infrastructure resources
- Compliance to disaster-recovery and business-continuity regulatory requirements
- Improved manageability to sustain the high-availability of the infrastructure during growth and new product or service deployments

We have a five-step consulting method designed to provide a rigorous framework for solving client's problems. We will engage with clients at any point of the lifecycle, and operate in a variety of roles from advisory through hands-on engineering services and global program management.

Our high-availability data-center initiatives include:

- **Assessment**—perform a current-state assessment of high-availability and the related operational processes, and carry out a business-impact analysis on mission-critical applications
- **Strategy**—determine business drivers, financial impact (TCO/ROI), operational and organizational impacts, and appropriate strategic options for a high-availability data center solution
- **Architecture and Design**—identify the design and operational requirements, and apply technology standards and industry best practices for solution development (including tool and equipment specifications, operational process implications and recommendations)
- **Implementation and Migration**—determine implementation requirements, and define optimal implementation and testing approach, perform enterprise-wide procurement, staging, installation, testing and validation, acceptance and training, define scenarios for migration from legacy environment to new high availability



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solution, define a phased approach for necessary operational process modifications and any organizational changes

- **Operational Handover**—monitor the implementation and maintain the high-availability environment, assess the support team skills and provide skill uplift recommendations, provide training and handover workshops for final operational handover

The specific deliverables of the High Availability Data Center solution will vary, but generally include:

- **Business Impact Analysis Report**—determine the mission-critical business applications and the respective availability metrics that the high-availability solution will be based upon
- **High Availability Matrix**—provide a matrix of different levels of high-availability with the corresponding infrastructure resilience requirements
- **Organization and Support Model**—give recommendations for realignment or enhancement of service delivery and production support organizations, and the selection and integration of monitoring and analysis tools
- **High Level Design Document**—provide a high-level specification of the design elements required to deliver the high-availability solution with equipment and tool specifications, and operational recommendations
- **Detailed Design Document**—provide detailed specification of the design and functional elements required to deploy the high-availability solution, and the associated operational process changes
- **Implementation Plan**—provide detailed installation specifications and a detailed checklist of the tasks required for complete deployment of the high-availability solution
- **Test Plan**—provide a testing methodology and detailed test scripts for the different phases of deployment of the high-availability solution
- **Migration Plan**—provide a detailed migration strategy and steps for technology change, including recommended schedule for migrations



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