

# The Economics of Business Continuity and Disaster Recovery

## Executive Summary

The Department of Transitional Assistance (DTA), An Agency within the Executive Office of Health and Human Services in the Commonwealth of Massachusetts, has been using the philosophy of applying new technology to improve productivity and reduce operating costs. Most recently, the implementation of a Business Continuity Model known as a “dual data center” implementation provided for a complete refresh of the information technology infrastructure supporting the agencies mission critical application environment and at the same time cut approximately \$500K annually from the IT operation budget.

To ensure Transitional Assistance is always available to Commonwealth citizens, especially in the event of a natural or manufactured local disaster, business continuity has to be an inherent part of the DTA’s IT systems functionality. DTA’s Disaster Recovery solution, provided by SunGuard Disaster Recovery Services, allowed DTA to recover and run the BEACON eligibility system with a Point of Recovery (POR) of 48 hours and Time to Recover (TTR) of 48 hours.

The DTA’s MIS Division conducted an exhaustive study to replace there existing Disaster Recovery Plan (costing \$500,000 plus \$5,000/day in case of actual disaster) with a Business Continuity Model that would allow DTA to recover its mission critical system with a POR of 30 minutes and a TTR of 4 hours. The study, completed in June, 2003 concluded that improved recovery times (48 to 4 hours) and reduced data loss (up to 48 hours to 30 minutes) would be obtained at a significantly lower cost by deploying an off-site Production Systems environment at The Massachusetts Information Technology Center (MITC) data center in Chelsea, Massachusetts. Thus, the dual data center concept provided a practical approach to disaster recovery, with a substantial savings to the State.

In addition to the enhancement of its Mission Critical Systems, DTA also upgraded its obsolete server and network infrastructure, connecting the Central Office with its 28 Local Offices.

A Project Team consisting of skilled personnel from various IT groups (DTA, ITD, EDS) such as Production Control, Systems Administration, Network Engineering and Database Management, was created and tasked with the detailed design, procurement specifications, implementation and testing.

This dedicated group of people spent over a year to complete the Project, overcoming several major obstacles such as maintaining the integrity of the current production environment as well as coordinating their efforts with that of the Commonwealths major undertaking of consolidating the States IT infrastructure.

The project was successfully completed on May 3, 2004 with the Department’s Mission Critical Production Systems operating from MITC.

Return on Investment (ROI) analysis has shown that implementation of the Dual Data Center concurrent with the implementation of a converged network will provide Technological Enhancement and substantial cost savings to the Department.

The DTA continues to look for opportunities to apply new technologies to improve productivity and reduce IT operating cost.

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## Project Description

The Department of Transitional Assistance (DTA) has been using the philosophy of applying new technology to improve productivity and reduce operating costs. Most recently, the implementation of a Business Continuity Model known as a “dual data center” implementation provided for a complete refresh of the information technology infrastructure supporting the agencies mission critical application environment and at the same time cut approximately \$500K annually from the IT operation budget.

To ensure Transitional Assistance is always available to Commonwealth citizens, especially in the event of a natural or manufactured local disaster, business continuity has to be an inherent part of the DTA’s IT systems functionality. DTA’s Disaster Recovery solution, provided by SunGuard Disaster Recovery Services, allowed DTA to recover and run the BEACON eligibility system with a Point of Recovery (POR) of 48 hours and Time to Recover (TTR) of 48 hours.

The cost of the Disaster Recovery Plan was substantial. The DTA paid approximately \$500,000/year to reserve the right to space and equipment at Sungard Disaster Recovery Services in Philadelphia, Pennsylvania in case of a disaster. This cost increased by 8% percent a year, with no commensurate decrease in recovery time or data loss. The DTA also incurred additional costs up to \$10,000 a year for disaster recovery tests and \$22,000 for off-site storage of backup tapes. In addition, if there were a disaster, MDTA would pay \$12,000 to reserve space at Sungard, and \$5,000 a day for each day needed at the SunGuard site.

The DTA’s MIS Division conducted an exhaustive study to replace this Disaster Recovery model with a Business Continuity Model that would allow DTA to recover its mission critical system with a POR of 30 minutes and a TTR of 4 hours. The study, completed in June, 2003 concluded that improved recovery times (48 to 4 hours) and reduced data loss (up to 48 hours to 30 minutes) would be obtained at a significantly lower cost by deploying an off-site Production Systems environment at The Massachusetts Information Technology Center (MITC) data center in Chelsea, Massachusetts. Thus, the dual data center concept provided a practical approach to disaster recovery, with a substantial savings to the State.

In addition to the enhancement of its Mission Critical Systems, DTA decided to upgrade its obsolete server and network infrastructure, connecting the Central Office with its 28 Local Offices. Many of the benefits gained by the upgraded Mission Critical System would be negated by the inferior operation of its server and connectivity infrastructure.

DTA also conducted a detailed study to determine the most economical way to upgrade its network equipment and connectivity. It concluded that upgrading its Voice and Data Networks simultaneously through convergence into a single IP Telephony Technology would not only give the benefits of the latest available technology, but provide additional cost savings.

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The move to MITC will have the immediate effect of securing a hardened facility for DTA production, refreshing end-of-life equipment, reducing total disaster recovery cost and maximizing data center resources. DTA's current Data Center at 600 Washington St. Boston will be used as back-up in case of unavailability of the MITC. 600 Washington St. will continue to be the Development and Test Site and act as the system interface, reporting and data warehouse operations center until the Commonwealth's Business Continuity Site is implemented.

Return on Investment (ROI) analysis has shown that implementation of the Dual Data Center concurrent with the implementation of a converged network will provide Technological Enhancement and substantial cost savings to the Department.

The DTA continues to look for opportunities to apply new technologies to improve productivity and reduce IT operating cost.

The below listed staff should be recognized as the major contributors making this implementation a reality. Thank you to all for all your good work.

TM Jacob (DTA), Dennis Terilli (DTA), Brian Barros (DTA), Donna Campbell (DTA), Laura Yanow (DTA), Tom Kennedy (DTA), Dennis Hacker (DTA), Ramesh Potturu (DTA), Steve Moge (DTA), Ruben Segura (DTA), Jack Montiero (DTA), Jaime Ortiz (DTA), Paul Nadeau (DTA), Kevin Donnelly (DTA), Frances Flynn (DTA)

Frank Melle (ITD), (Joe Uzdavinis(ITD) , Joseph Arigo(ITD), Robert.Cullivan(ITD), Mustapha.Dahni(ITD), Chuck.Harvey(ITD), Joe Foley(ITD), Jim Girardi(ITD), Chuck Harvey(ITD), Rick Herbert(ITD), Domenic Musto(ITD), Richard.Smith(ITD), Ron.Thompson(ITD)

Patrick Claussen(EDS), Doug McKenna (EDS), Denise Smith (EDS), Orphy Cheung (EDS)

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**Commonwealth of Massachusetts  
Department of Transitional Assistance  
Implementation of Dual Data Centers**



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