

CASE STUDY

Spectra Logic helps preserve data on each of India's 1.25 billion citizens in a substantial national initiative

“ Wipro and UIDAI are undertaking a significant government project to benefit India residents – similar to establishing the social security system today in the United States. This large-scale project is an ideal example of the great role that tape continues to play in large enterprises and for Big Data management. With TFinity, UIDAI is able to affordably scale with the project in a small data center footprint. ”

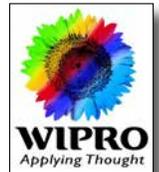
Nathan Thompson, CEO of Spectra Logic Corporation



About the UIDAI

The Unique Identification Authority of India (UIDAI) is the Indian Government agency established in 2009 to implement and manage a resident identification project. The UIDAI's mission is to create a unique identification number for every Indian resident, and to maintain a database of the information associated with that ID number. The resident enrollment procedure for obtaining a UID card includes data collection, processing and online storage. Five megabytes of data are produced with each resident's enrollment, and backup is required at each phase.

UIDAI selected a managed service provider, Wipro Infotech Ltd., to recommend and install the servers, switches and backup/archive hardware equipment essential to manage more than 500TB of ID data on 100 million Indian residents associated with the project's initial phase. The project scope was expected to increase fivefold within two years. To efficiently manage this vast and growing data set, UIDAI requires an advanced backup and archive system that offers extreme storage density and low power consumption – all at a reasonable price.



Fast Facts: UIDAI Project Plan

- Mission: to issue Unique Identification cards to every Indian citizen
- Up to 5MB of data associated with each resident
- Multiple implementation phases planned to enroll the entire population of about 1250 million Indian residents in controlled stages
- Data stages include data collection (enrollment), transmission (FTP upload), processing (authentication), online storage and backup/archival
- Today, approximately 600 million Unique ID cards have been issued, totaling 3PB of data



Fingerprint capture as part of acquiring an Indian citizen's unique ID card through UIDAI.

CASE STUDY: Unique Identification Authority of India – UIDAI

The Challenge

Preservation, Speed and Capacity for Monumental National Project

UIDAI previously used HP tape libraries with Symantec Netbackup software in its Wipro data center, but the libraries did not offer sufficient capacity, speed, redundancy or reliability; and they consumed excessive space in the data centre. In 2011, UIDAI bought four TFinity tape libraries because they offer identical library management interfaces on both the unit front panel and the online remote access; self-maintenance options such as auto-support and auto-drive cleaning; TeraPacks™ for bulk media handling, import/export and archiving; the TFinity library's industry-leading density; and dual robotics for dramatically improved redundancy and reliability.

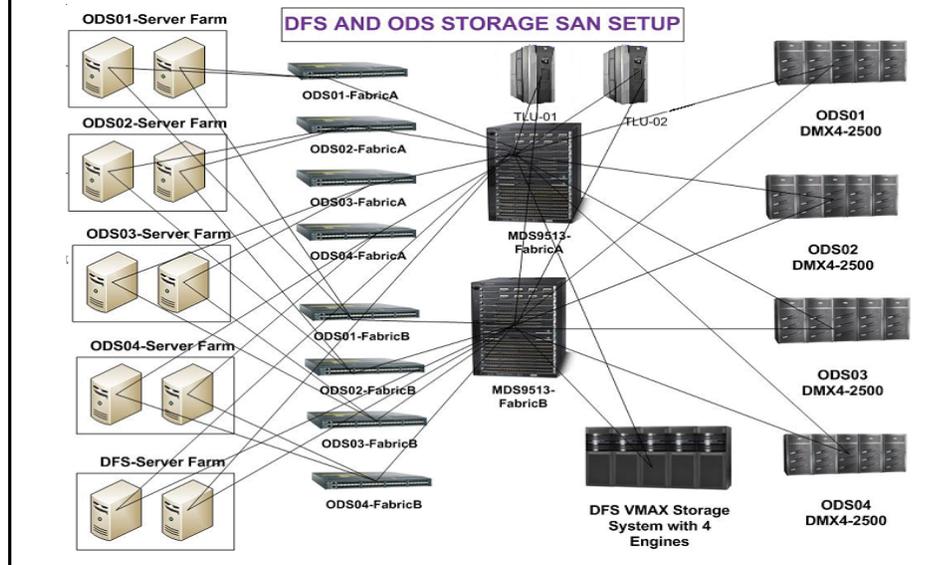
The Solution

Wipro selected four, 4-frame TFinity libraries to handle the job. Wipro placed two TFinity libraries at its New Delhi benchmarking and test site and two identically configured libraries at its Bangalore production site where the UID data is collected from field terminals, processed and stored. All of the UIDAI data, including archived data, is kept on-site and backed up continuously in the TFinity tape libraries in Bangalore and is then replicated to the New Delhi site. UIDAI's data remains online 24-hours per day so that all data, including its archived data, can be retrieved quickly and easily.

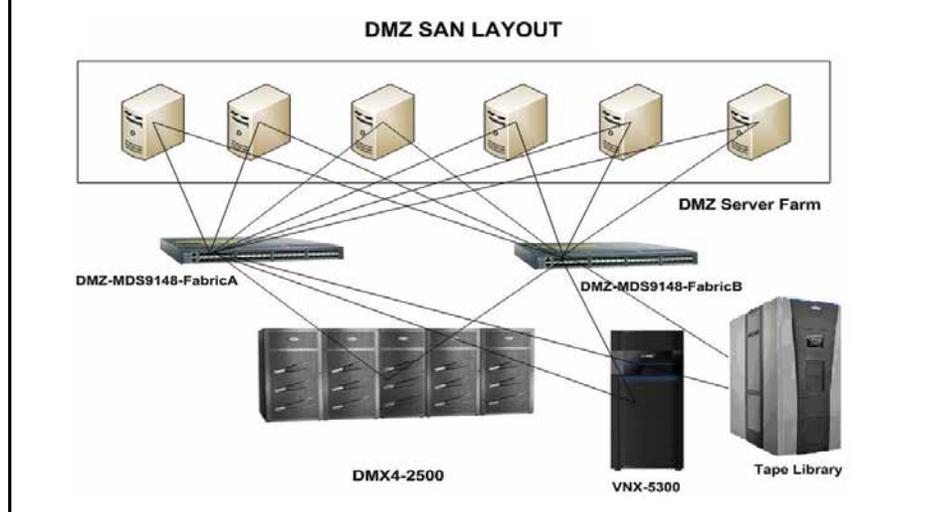
Results

The Spectra TFinity tape library is a highly-scalable platform with enough capacity to permanently store vast amounts of data while meeting legal compliance. Tape storage and maintenance do not require power, which conserves energy and ultimately reduces power bills. The next phase of the UIDAI project involves enrollment of another 600 million Indian residents—or approximately 3PB of data—which is five times the size of the initial phase implemented in 2011. Wipro can easily add more than 25 frames in each of its current TFinity tape libraries to increase capacity and accommodate those requirements.

SAN Design – Solution Diagram



SAN Design – Solution Diagram



Network Environment

- Four 4-frame Spectra® TFinity libraries
- LTO-5 tape technology
- Dell PowerEdge and RHEL 5.4 servers
- CISCO fibre channel switches
- EMC disk arrays: DMX, VMAX, VNX
- EMC Networker backup software
- Remote site replication (Bangalore to new Delhi)

Why Spectra?

- Innovative product line
- Single software interface for online remote access
- Scalability for vast data growth
- Dual robotics
- Low power requirements
- Easy administration and configuration
- Unparalleled support services