Introduction

There have been two distinct phases in the life of the company so far, viz, phase 1 when it worked on creating desktop applications on the Windows platform and phase 2 (the current phase) when it is creating low cost enterprise software on the Linux platform.

The best success in the first phase of Mithi’s existence was the creation of a multilingual word processor, LEAP. Mithi’s contribution to the product was the creation of an easy to use Indian language product that pushed up the popularity of Indian language usage on the PC many-folds.

LEAP has an estimated user base of over 5,00,000 users that include customers such as RBI, MTNL, IOCL, Income Tax, Ministry of External affairs, BoI, BoB, Allahabad Bank, PNB, Indian Railways, Govt. of Maharashtra, GAIL, LIC, Oriental Insurance, Parliament of India, HPCL, BPCL etc.

An Award winning Efforts

LEAP, the multilingual word-processor created in collaboration with CDAC, has been an award winning software for many years, having won awards like


MIT–(Ministry of Information Technology) Best Hindi Software award for the year 2000.

Indo American Society–Dec 2000- for it’s contribution to the spread of Information technology in India.


Investing into a new future

In the 2nd Phase of its existence, which started in late 1999, the company sought investments to build enterprise application with an objective to leverage the Internet and open source technologies to deliver low cost enterprise applications. The company received funds to the tune of Rs. 3 crores (@ 750,000$) from private equity investors and institutional funds such as the National Venture Fund for Software and IT Industry (NFSIT), set up by IDBI and SIDBI in association with Ministry of Information and Communication Technology (MICT), Government of India.

Applications for the Enterprise

From Sept 1999 the company has been investing in new initiatives for building affordable solutions for creating and enhancing the communication infrastructure for the enterprise. During this period the company has invested over Rs. 4 cores (@ 1 million $) in creating communication software products for the enterprise. Mithi Connect Server, the mail server solution that emerged from this initiative has found acceptance across a wide range of industry segments such as Health Care, R&D establishments, Financial Institutions, Educational institutions, Government, Software, Defense, Manufacturing, Banks, NGOs, Agro, Logistics, Media, Internet Service Providers etc. The company expects to reach a revenue of over Rs. 1 crore (@ 250,000$) by the end of this financial year.

Key Customers

The OneWorld foundation, Eenadu, IDRBT, NIBM, CAB (RBI), Associate Road Carriers, ITC-IBD, Escolife, Tata Projects, ECIL, TCS, Bharat Forge, Kalyani Steels, DRDO labs, CISR labs, Indian Bankers Association, Food and Drug Authority, Satyam, UNI, Govt. of Madhya Pradesh, Govt. of Andhra Pradesh, Govt of Chhatisgarh, Ministry of Small Scale Industries, Development Alternatives etc. are a few of the well known licensees of the enterprise solutions created by Mithi.
Mithi's strengths

The company’s strength lies in software product development. Since its inception Mithi has been working on building a business around creating high quality software products. Although it is more difficult to create software products over delivering software solutions, software products offer enormous cost benefits to the end-users. A well designed, well-integrated software package can speed up deployment, training and lower the costs of managing the deployment, which are some of the key costs involved in the ownership and use of a software product. This belief has been central to Mithi’s work. The four founding member who have nearly 15 years of experience each, have been with the company since its inception in 1991 and have gained considerable depth in managing software product development and providing technical assistance to deploy and manage software for an enterprise.

Mithi leverages its email platform and high quality services to provide a complete end to end solution to the customer. By appropriately deploying and configuring the Mithi Connect Server platform, multiple solutions catering to varied needs are possible. The same software platform is capable of serving small businesses/organisations, medium sized businesses/organisations and large businesses/organisations.

Mithi Connect Server

Email Solution Overview

Mithi Connect Server is an out-of-the-box email server and messaging solution built on the open source components platform (Linux, Apache, qmail, courier, postgresql, etc).

The software caters to requirements for security in mailing, performance improvements, fresh email networks, extending an existing email network, providing anytime anywhere access to an existing email network and integration with existing enterprise applications.

Mithi Connect Server™ can be used to provide...

Complete email solution – Mail Server, Mail Gateway, Web Mail, Address Books

Easier Management – Configuration, Monitoring, Reporting, Diagnostics, Connectivity

Extension for your email setup – Address Books, Mail boxes, Mail Gateway

Remote Access – Mithi Web Mail

Secure email /Internet Gateway – Anti Spam, Anti Virus, Firewall, PKI, Content filter

Enhanced Performance – Mail Relay, Mail Gateway, Proxy, Bandwidth mgmt

Solution Description:

The software can be appropriately configured to fit into any or all of the above scenarios. Mithi Server Manager™, a rich remote administrative GUI interface to configure and manage the email set-up makes it very easy to handle a Linux mail server, with significant saving in deployment, management and training costs. It’s browser based interface enables the Linux mail server to be configured and managed from a Windows PC. The Systems configuration and management layer also effectively isolates the applications built on top of this platform.

The Application layer is designed to allow ‘plugging in’ of different third party applications.
Mithi Web Mail™, a high performance web mail and collaboration application forms part of the standard Mithi Connect Server package along with some select third party applications like a web Calendar. This layer presents a unified enterprise interface to all the applications so the user has to sign in once and get access to all the applications.

It supports standard email clients like Outlook, Eudora, etc, and also provides Mithi Web Mail™, a web mail client and collaboration application.

**Solution Architecture**

- **Secure Mailing**: A relay mail server to enhance performance and secure the mail network from viruses and spam.
- **Performance**: Add more branch servers to your existing email solution, offload mail relaying, optimize and control Internet sharing etc.
- **Internet mail server**: Integrated email solution on a fixed IP running 24/7 receiving and serving mail.
- **Mail gateway**: Mail server on the LAN to send and fetch mail periodically from the remote Internet mail server.

**Functional Description**

Mithi Connect Server can be deployed as

- Web Mail: Remote anytime access to mailboxes on any SMTP/POP/IMAP compliant mail server via a multilingual web mail client.
• Extension: Extend an existing mailing solution to add more users, more locations

Some of the key features/modules are

• Email Server (SMTP, POP, IMAP based complete email server)
• Email Gateway/Retriever (periodic fetch, concurrent fetch cycles, size and number limits, etc)
• Mithi Web Mail™ - Web Mail client with support for Indian languages (11 Indian languages + English)
• Mithi Personal Address Book™
• Mithi Global Address Book™
• Mithi Corporate Directory™ (LDAP based with list of users and groups on domain)
• Mithi Server Manager™ - Configuration and Management console (Web based remote access and SSH based command line access)
• Security – Anti virus, Anti Spam, firewall and a security framework
• Reporting (Health, mail usage, delivery, events…)
• Monitoring (Services, logs, alerts, connection)
• Backups (Single click, remote copy, schedule, multiple jobs)
• Connectivity Management (multiple connections, switch, active connection, scheduled activation)
• Bulk Mail (Separate message for each recipient, batch size control, HTML mail with attachments)
• Public Folders
• Calendar integration
• Multiple domain support
• Proxy Server
• Comprehensive online documentation
• Interfaces to support third party software integration/communication (Web services)

Business Case/ Benefits:
The key benefits of deploying Mithi Connect Server are:

Save on Upfront investment in software licensing and hardware cost. Because Mithi Connect Server is based on Linux it enables you to set-up an email network for your enterprise that makes efficient use of hardware and comes at a low per user cost of software licensing. Save on cost of deployment Because Mithi Connect Server is easy to set-up and configure it minimizes the cost of deployment.

Save on investments (leverage current investments in h/w-s/w) Because the solution has a highly adaptable modular design to easily integrate with (and even make use of existing) hardware and software set-up like MS-exchange, Lotus-Notes, MS-Outlook etc. it helps you preserve (and even leverage) your current investments in licensing, deploying and training on these software.

Save on running costs Because you can configure and manage your Linux email server from a Windows PC, it saves you costs in training and time in managing the server. Save on losses due to downtime (due to server failures and security breaches - easy manageability, reliability and security) Save on cost of upgrading Because the highly adaptable modular design of Connect Server can help you scale-up, scale-out and reconfigure the system with greater ease.

High Performance, Robust and Secure platform at Low cost

Being based on the open source platform and Linux, naturally aggregates the qualities of these components into the product. It has been adequately proved in large and high load installations, that Linux and open source components have been the least hacked, and have scaled up well. The licensing model of these components lends to a low cost for the solution.

Open source building blocks

These components are high performance, secure and scalable. Also since these components are maintained and supported by active communities, the resulting solution is supported well.

Pure Internet Architecture

Mithi Connect Server is deployed on a pure Internet architecture (WAN or public) which is standard in most networks and thus forms the ready backbone of the solution. This leads to lower client licensing and also reduces the management costs associated with maintaining a separate email network infrastructure.

Manage your Linux server from a Windows PC

Mithi Connect Server provides Mithi Server Manager™, a remote management console, which can be run off any client platform from a browser. This implies that the administrator need not be a Linux expert to configure and manage the email solution. This leads to reduced training and management costs bringing down the TCO. Automation features like periodic health reports, mail delivery reports, alarms, security framework, etc., all lead to reduced deployment and management costs.

Performance & Scalability - Tested & certified for performance

Mithi and Intel together have extensively tested the Mithi Connect Server solution, at the Intel Solutions center in Bangalore for scalability and performance. A scale-up and scale-out plan has been worked out with the Intel solutions group.
Mithi Connect Server can go from 5 – 100,000 users on a single server or a multiple server environment.

**Application Scalability**

Mithi Connect Server provides a rich application layer with a ready email and collaboration application set - Email Server, Email gateway, Mithi Web Mail™ (Multilingual Web Email client), Web Calendar, Mithi Personal Address Book™, Mithi Corporate Directory™, Mithi Global Address Book™, Knowledge Management, Digital resource sharing, Online Exam)

**Integration**

Mithi Connect Server provides rich interfaces to integrate with existing Enterprise applications like ERP, PIS, etc. These interfaces are Web services exchanging data in XML. Extensive documentation with samples makes it very easy to get started with using the web services to access the mail engine programmatically.

**Adaptable**

Mithi Connect Server is designed on open standards and stores all data in well-documented RFC compliant standard formats. This provides you with vendor independence since the data formats are not proprietary. The modular architecture allows you choose different underlying components which can be plugged in on demand.

**Multilingual**

Mithi Web Mail™ can send and receive mail in 11 Indian languages besides English. The languages supported are Hindi, Assamese, Bengali, Gujarati, Kannada, Malayalam, Marathi, Oriya, Punjabi, Tamil and Telugu. The data storage and transmission happens in the Unicode encoding thus making the mail format well understood by other systems. Also the Mithi Web Mail™ can attach multilingual signatures, search through multilingual mail, etc.

**Flexible licensing**

Mithi Connect Server provides the option to charge per server, per user or per module thus providing the user with the choice to pay only for what is used. The per server charge would deploy Mithi Connect Server without the application layer, in which case the users would use clients like Outlook etc to access the server. The per server, per user charge would cover the use of the application layer. The per module charge gives the user the flexibility to choose only the modules that he needs.

IndiaInteractive - The DNA of good multilingual applications Dependable, iNexpensive, Adaptable

IndiaInteractive is the platform of choice for organisations and individuals seeking to localise their web sites and applications:

1. It is a Complete and mature solution
   - Rich software resources (vast array of keyboards, support for Indian language fonts from any Indian Language font vendor, Conversion APIs, encoding support for UNICODE/UTF8/ISCII, easy automatic installation & deployment...)
   - Localized UI controls (On screen keyboards, buttons, boxes, Language sensitive Edit controls, etc)
   - Frameworks to localise Web apps, Client Server apps & Desktop apps, and tools to assist translation and migration, samples on various platforms like JSP, ASP, VB.NET..., extensive documentation, Integrity checkers to confirm proper setup, and functioning...)

2. Works Cross Platform

Is available for a wide variety of client and server platforms

3. It involves Very less integration time
   - IndiaInteractive’s modular architecture and ready plugs, ensures the quickest possible hassle free integration into your system.
4. It is Tried and tested

By thousands of users in many applications.

Localisation Framework

While developing LEAP, the award winning multilingual word processing software, Mithi created IndiaInteractive, an Application Localisation Framework to help deal with the complexity of managing the development of multilingual applications/web sites (Languages supported are Assamese, Bengali, Gujarati, Hindi, Kannada, Malayalam, Marathi, Oriya, Punjabi, Tamil, Telugu). This development framework now extends to cover network and web applications for a range of system architectures and platforms.

IndiaInteractive has already been used to create interactive multilingual desktop and networked applications for e-Governance, Email, Web Sites, Kiosks, Office automation & productivity software etc. IndiaInteractive can also be used to localize applications such as Customer Care & Billing, Public Information Systems, Online forms, Information archives, Message Boards, Chat, and much more.

LEAP is a trademark of CDAC and was developed in collaboration with CDAC. LEAP has an estimated user base of over 350,000.

IndiaInteractive Architecture:

Companion software and Resources

IndiaPage

To create and manage multilingual content and translations during the localisation process.

Dynamic fonts

To provide resources for displaying sites in Indian languages without having to download fonts.

More Information...

Localisation Solutions Group

Organization of all sizes with varying needs are adopting IndiaInteractive as the platform of choice for localizing applications in Indian languages. Write to us (at info@mithi.com) for more information on how some of these organizations are using IndiaInteractive for their localization initiatives.

To extend the technical support arrangement beyond the period of free support, licensed users of the software can sign-up for an extension of the technical support agreement.

Product Information:

The Language Toolkit

Languages Supported

Assamese, Bengali, Gujarati, Hindi, Kannada, Malayalam, Marathi, Oriya, Punjabi, Tamil, Telugu & English.

Font Support : TrueType, ATM Third party font support, e.g. for Hindi, IndiaInteractive provides support for over 300 vendor fonts from vendors such as CDAC, Modular, Akruti, Susha etc. Includes one default font per language specially
designed for screen display. Default font in monolingual & bilingual (vernacular language + English) formats, to allow creation of monolingual & bilingual user interfaces. Vendor/ font neutral architecture

**Compatibility** : Support for standard encoding formats such as ISCII & Unicode for data storage.

**Display** : Aesthetically designed fonts, specially refined for on-screen display.

**Keyboard Support** : Support for multiple keyboard layouts and input methods for each language - Phonetic, Inscript, Typewriter, Tamil 99, KGP etc. Intuitive & Intelligent keyboard input with automatic correction mechanism

**Data Exchange & File Format Support** : Can read and write to multiple file formats such as LEAP, RTF, HTML, ISCII, Unicode. Routines to convert between various encoding such as ISCII, PC-ISCII, 7-bit ISCII, Unicode(16-bit and 32-bit), UTF-8. Routines to migrate legacy data in third party font code to standard encoding. Ability to exchange data with proprietary font codes and other standards compliant applications.

**Extensibility** : The Multilingual Computing Environment (MCE) enables easy addition of third party fonts, keyboards and language tools.

**Text/Information Processing** : Text/Data created using these components can be searched, sorted and indexed.

**Script handling** : Has a world class Indian language editor which can function as a multilingual editor or a bilingual editor. Proper caret movement to provide ease in editing texts in Indian scripts, Handling of copy and paste functions across a range of encoding & formats.

**Learning tools** : Software components, such as Onscreen Keyboard etc. can be used to create tutorials/learning aids for working in Indian languages.

**Desktop Localisation Framework**

**Localization of applications** : Supports multiple ways for localizing applications with approaches that require minimum change to existing applications. Java Components and ActiveX controls are available to enable localization of applications across many platforms.

**Software Component Library** : Plug-ins which enable existing forms and third party controls to work in Indian languages. Local language text editor component. Local language label, list box, push button, radio button and check box controls, Onscreen Typing Assistant component, On-screen click and type (useful for information kiosks). Exposes key API to convert between different formats and character encoding.

**Translation Assistant** : Can be used to create and manage translation databases. API to the database in various forms such as Java Components, ActiveX control, D2K PLL, Crystal Report DLL

**Migration Assistant** : Automatic conversion of databases from font code to Unicode/ISCII.

**Installation** : Re-distributable installation executables.

**Printing** : Reports in Indian languages using Crystal reports, VB Reports and D2K Report Builder.

**Programming language** : Supports different programming languages C, C++, C#, Visual Basic, etc.

**Databases Supported** : MS Access, MS SQL, IBM DB2, Oracle11i, Oracle9i, Oracle 8i, Oracle 8/ 7, MySQL, FoxPro, FoxBase, PostgreSQL, Clipper, Excel, Text Files, Paradox and other ODBC compliant databases.


**Sample applications** : Package includes samples for all the popular development environments like
Visual Basic, Visual Foxpro, D2K, Crystal Reports etc.


**Client server application Framework**

**Thin-Client Architecture** : Components that run on the server to read and write to the database in standard character encoding formats (ISCII/Unicode) and render glyphs for display. A translation database for user interface, reports etc. running on the server.

**Thick-Client Architecture** : Indian languages input, display and processing handled at the client end with component libraries (similar to those in the desktop framework).

**Programming language** : Supports different programming languages C, C++, Java, C#, Visual Basic, VB.net etc.


**Installation** : Re-distributable installation executables for client end component setup.

**Printing** : Reports in Indian languages using Crystal reports, VB Reports, Developer 2000 Report Builder, Oracle Reports 6i/9i.

**Sample applications** : Wide collection of working samples for Visual Basic, Visual Foxpro, D2K, Crystal Reports, Oracle Forms 6i/9i etc.

**Web application framework**

**Client side components**

- Java applets
- Programmable Java Components for Oracle 9iAS
- ActiveX controls & Netscape Plugins

- Local language text editor component.
- Onscreen Typing Assistant component
- On-screen click and type (useful for information kiosks).

**Server side components**

- Display generators (ISCII/Unicode encoding to font conversion)
- Translation Assistant to manage translations

**Programming language** : Supports different programming languages like C#, java, JSP, ASP, Perl, PHP, Servlets, PSP.

**Databases Supported** : MS Access, MS SQL, IBM DB2, Oracle11i, Oracle9i, Oracle 8i, Oracle 8/7, MySQL, FoxPro, FoxBase, PostgresSQL, Clipper, Excel, Text Files, Paradox and other ODBC compliant databases.

**Application Development Environment** : Companion to popular application development environments like Lotus Domino, Visual C++, VB.net, ASP.net, Oracle 9iDS, Visual Interdev, and JBuilder etc.

**Migration Assistant** : Automatic conversion of HTML pages created using font code to Unicode HTML or to another font code.

**Installation** : Selective auto-installation of client components off the web Auto Repair damaged files; Auto Replace missing files. Easy server installation for Windows, Linux servers


**Browser Support** : Compatible with Mozilla, Netscape and Internet Explorer.

**Sample applications** : Package includes samples for ASP.net, VB.net, PHP, Forms 6i / Forms 9i, HTML, ASP, JSP, Java Servlets etc.

**Reference Applications** : www.aponline.gov.in/ teluguportal www.honeybee.org
<table>
<thead>
<tr>
<th>Based on a sample in</th>
<th>ASP</th>
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<td></td>
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<td>• Multiple Keyboard layouts</td>
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<td>• Bilingual (Marathi &amp; Telugu)</td>
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<tr>
<td>Data Encoding</td>
<td>ISCII</td>
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**Platforms Description**: App. Server: Oracle 9iAS R2, Forms Server 9i Database: Oracle 9i – Unicode data, UTF8 char-set Browsers: Oracle 9iAs certified browsers. (IE 5+, NS 4.7) Server Side OS: Any

**Framework to Localise the UI and Reports**: The user interface elements are localized using two methods Pluggable Java Components (PJC) for Edit boxes, List of Items, Buttons, Using Extended classes for List of Values(LOV), Alerts, Menu, Labels, Forms.

**Support for Bilingual Data processing**: Data entry, Retrieval, Sorting, Searching, Context-based searching, Printing of reports with bilingual text.

**Support for Database Functions**: SQL queries with Indian Language Data from SQL Plus Prompt.
Hindi language features: Editing bilingual data in the same Text field. Support for different keyboard layouts - Inscript, Remington, Phonetic Transliteration. (Phonetic conversion of Hindi data to English and vice versa).

Setup & Installation: Auto client installation with minimum size. Installation program to configure the server.

A localised application in JSP

Based on a sample in JSP

Front end: IE, Mozilla, Netscape Deployed on: Tomcat 3.3.1

Database: IBM DB2 UDB Ver 7.2

Operating Systems:
- Server: Windows NT Server
- Clients: Windows

Properties:
- Marathi Interface
- Multiple Keyboard layouts
- Bilingual (Marathi & English)

Multiple controls: Edit boxes, Lists, Message Boxes, Menus

Data Encoding: ISCII

(Source Website/Courtesy: Mithi Software Technologies Private Limited 302, May Fair Court, Dr.Pai Marg, Baner Poad, Aundh, Pune - 411045 Tel: +91 20 27293257/58/59 Fax: +91 20 27293260 E-mail: info@mithi.com Website: www.mithi.com)