



Visto Mobile—Enabling Mobile Email Enterprise-wide



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Introduction

Mobile email is no longer just a “nice to have” capability for business. Very few employees have the luxury of staying at their desks and close to their computers. Businesses are finding that even if they equip their top executives with mobile email, they still have many other employees who need to be responsive to customers, partners and each other in order to remain competitive.

Visto makes it easy and affordable for an entire organization to access mobile email. Visto provides secure mobile email on the devices users choose for the email systems they are already using. For businesses, this means new flexibility and choices that were previously unavailable. The IT department now has the option of offering mobile email cost effectively to the entire company on a broad array of devices and smartphones—providing executives with the high-end devices that they prefer, while supporting the more affordable handsets that the rest of the organization already has. Through a choice of mobile operators, Visto Mobile™ is available on a variety of flexible service plans tailored to meet any IT budget.

In short, Visto makes mobile email easy—easy to set up, easy to use and easy to support. Your IT department will have Visto Mobile up and running in no time, deployed to your users with minimum fuss, and maintained with very little effort.

Visto Mobile provides the entire enterprise with fully synchronized and secure mobile access to email, calendars, contacts and tasks from virtually any wireless personal digital assistant or smartphone. Users of Microsoft Exchange or IBM Lotus Domino enjoy fully synchronized over-the-air (OTA) access to all groupware functions through the user-friendly Visto Mobile Client. The Client also permits users to access hosted mailboxes at separate IMAP or POP email accounts from Yahoo!, Google, MSN, AOL or other Internet service providers—whether for business or personal use.

With Visto Mobile users get all-in-one mobile email access to multiple accounts with the ability to:

- Achieve an optimal work/life balance by having full access to both business and personal email
- Read, create, send, reply to and delete emails
- Download/view and edit/upload email attachments
- View, create and manage tasks and appointments, including recurring ones
- View, create and manage contacts
- Access and search corporate directories
- Manage their own configurations and multiple mailboxes (within limits established by the IT department)

Visto Mobile also gives the IT department an enterprise-class feature set for enterprise-wide mobility, including:

- Support for full email and groupware functionality on virtually any device (see sidebar on Use the Device You Choose)
- Client software that is easy to set up and use, thereby ensuring user satisfaction and minimizing calls to the Help Desk

Use the Device You Choose

Visto Mobile supports the industry's widest range of personal digital assistants (PDAs) and smartphones, including:

- Microsoft Windows Mobile for Smartphone and Pocket PC Phone Edition
- Symbian OS (UIQ and Series 60/80 Platform)
- Palm OS
- Most other devices equipped with J2ME, IMAP and SyncML capabilities

Certified support of devices is available almost immediately after leading PDA and smartphone vendors introduce new offerings. This keeps cutting edge users satisfied while continuing to protect the company's investment in the Visto Mobile solution.

- Real-time OTA ConstantSync™ push technology that eliminates the need for desktop synchronization, even for client software updates
- Robust security with no need to store-and-forward messages outside the firewall and other perimeter protections
- Total end-to-end control over every aspect of the system's operation

The remainder of this document is organized into three sections, each exploring a major advantage afforded by Visto Mobile. The first section describes how utterly easy it is to deploy, manage and use Visto Mobile. The second section outlines the capabilities that make Visto Mobile solidly secure and totally trustworthy. The third section explains how Visto Mobile is able to provide its industry-leading low total cost of ownership.

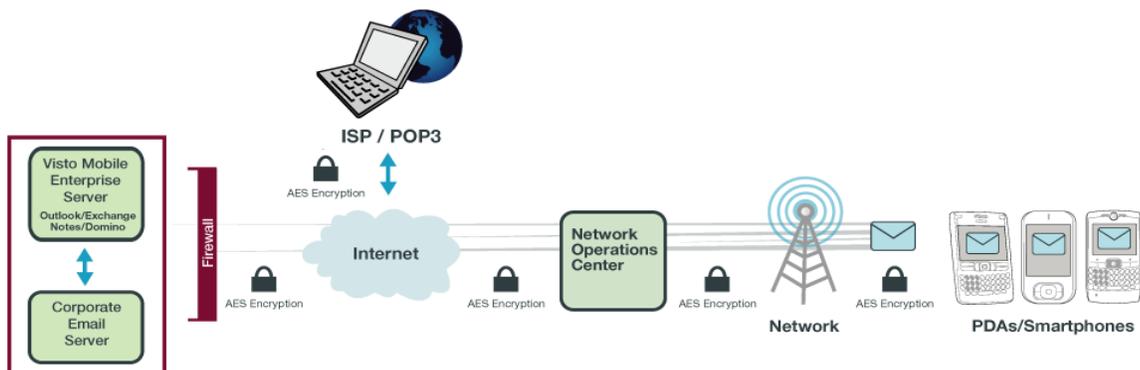
Easy to Deploy, Manage and Use

Visto Mobile sets a new standard for ease of deployment, management and use. IT departments appreciate the wizard-guided installation process and powerful, yet intuitive, management capabilities. Users appreciate the friendly single-click Visto Mobile Client setup process and the seamless interface to the Client's many advanced capabilities. Simply put: No other mobile email solution is as easy on employees—or as easy on budgets—as Visto Mobile.

Ease of Deploying the Visto Mobile Enterprise Server

Whether deployed across the entire enterprise or among smaller workgroups, the Visto Mobile Server is remarkably easy to deploy. The process itself is guided by an installation wizard that includes the ability to configure multiple domains. And because the Server requires no special port assignments on the corporate firewall, no changes are needed to the firewall's configuration. For these reasons, most IT departments have the Server up and running in under 30 minutes.

The Visto Mobile solution consists of the Visto Enterprise Server (VES) application deployed in the enterprise data center, a Network Operations Center (NOC) provided by Visto or one of Visto's many carrier partners, and the Visto Mobile Client (VMC) for installation on mobile devices.



The Visto Enterprise Server (VES) is an enterprise-class server that manages the flow of information between the Microsoft Exchange or Lotus Domino server(s) and the user devices via the NOC. The VES, which is installed on ordinary Microsoft Windows servers, provides a central point of control for the IT department to provision user accounts and manage the service. Because there is no desktop software to manage, the approach results in both extra security and additional cost savings for large-scale, enterprise-wide deployments.

Ease of Installing and Configuring the Visto Mobile Client

Once the VES is installed, the familiar and intuitive Microsoft Management Console (MMC) interface allows the system administrator to provision users from existing Microsoft Exchange or Lotus Domino accounts. The VES connects to the mail server using standard methods, such as the Microsoft Messaging Application Programming Interface (MAPI) or the Lotus Domino C API.

The VES then generates login credentials for each provisioned user, and sends these credentials using the Advanced Encryption Standard (AES) over SSL to the NOC for use during authentication.

Once a user is provisioned, there are two ways to install the Visto Mobile Client: An over-the-air (OTA) download of the software; or smart cards pre-loaded with a “Smart Icon” version of the software. Either way, the Single-click Setup process—complete with step-by-step instructions—makes the effort virtually foolproof. Finally, a welcome email confirms the setup was indeed successful.

Users wanting access to one or more separate IMAP or POP email accounts are guided through a similarly simple and straightforward process that is as easy as setting up an email account on a home PC. Users are able to select from a branded list of popular ISPs and mailbox providers, or can add their own. With just a few screens and keystrokes, again guided with step-by-step instructions, the minimal configuration required is generally captured successfully on the first try.

Ease of Operation and Staying Up-to-Date with ConstantSync

Visto Mobile utilizes Visto ConstantSync technology, a network-optimized real-time push technology that ensures all email, calendar, contacts and tasks are always up-to-date. The 100% real-time architecture also ensures that sensitive corporate data is never stored outside the firewall, while strong end-to-end encryption provides an additional layer of protection.

Some of the key features of ConstantSync include:

- Real-time, bidirectional push for email, contacts, calendar and tasks
- 100% over-the-air (OTA) communications that eliminates the need to synchronize with cradles, and ensures that an important email or change in a schedule is delivered on time
- OTA protocol optimization for maximum performance over wireless links
- Completely IP-based operation with no use of short message service (SMS)
- Strong end-to-end encryption, as well as link-by-link encryption where end-to-end security is not possible with hosted mailboxes
- No holes to be opened in the enterprise firewall as the Server (safely behind the firewall) communicates with mobile devices via the NOC

Field Communications for a Construction Company

A major construction company specializing in large, public works projects does nearly all of its work below the curb—and out of the office. In a business dependent on constant communications and coordination among workers who spend 95% of their time in the field, mobile email is a must. But two previous attempts to provide field communications failed to meet the company’s needs. One solution was too expensive, making it difficult to cost-justify for all of the company’s work crews. The other solution was too unreliable, with users regularly complaining about not being able to access the system—sometimes for an entire day.

With its cost-effective support for multiple devices and networks, and the ability to upload and download attachments, Visto Mobile is ideal for this and other field applications. The Visto solution has dramatically improved productivity and helps prevent costly mistakes by equipping all personnel with the most up-to-date plans. Crews can even take photographs of the job site and fill out forms that together keep management fully up-to-speed on progress—and completely informed of any problems. The workers particularly appreciate the intuitive ease-of-use when communicating in real-time with architects, engineers, supervisors, and of course, the customer.

- Full background operation to extend the life of mobile device batteries
- Catch-up synchronization, which enables the system to recover from connection failures or other problems
- Data type independence, allowing for bidirectional push of attachments of any file type or format
- Connection scheduling that allows users to specify a recurring window of time during which the ConstantSync client maintains a connection to the server

Ease of Use

Visto Mobile allows users to choose virtually any mobile device that suits their particular needs or preferences pertaining to style, user interface or feature set. Alternatively, Visto Mobile gives the IT department the opportunity to standardize on a device that supports customized applications, or reduces capital and operational expenditures. Regardless of the choice, a single device can handle four separate email accounts (one groupware and three hosted mailboxes) to help users balance their professional and personal lives.

The Visto ConstantSync technology provides users with real-time OTA push technology that synchronizes their mobile devices with both groupware servers (Microsoft Exchange and Lotus Domino) and hosted mailboxes. The use of push communications means that users are automatically up-to-date with their emails and personal information management (PIM) data—all remotely without any need to perform a physical synchronization using a cradle. Users are also able to have OTA access to the corporate directory, which enhances security by minimizing or eliminating the need to maintain complete corporate contact lists on mobile devices.

Users appreciate the way that the Visto Mobile Client shields them from the underlying ConstantSync technology, thereby preserving the device's own—and familiar—user interface. The Client's operation in the background also gives other applications on the device full access to PIM data, emails and attached documents. The Visto Mobile Client even reduces email housekeeping tasks by automatically synchronizing the status (read, forwarded, replied-to and deleted) of all emails with the groupware server and/or hosted mailboxes.

Ease of Managing Centrally—and Completely

The fundamental architecture of Visto Mobile, combined with specific features of the Visto Enterprise Server and Visto Mobile Client, make the solution extraordinarily easy to manage. Authorized IT administrators have full, centralized control over every aspect of its operation via the familiar Microsoft Management Console (MMC) interface. The sphere of control covers the groupware domains, user capabilities and authentication requirements, group or individual access permissions for hosted mailboxes, and more.

The Visto Mobile solution further minimizes the burden on IT staff by handling many routine tasks automatically. For example, recognizing that corporate LANs and Exchange/Domino servers can be unreliable, the Server automatically monitors and re-establishes connections—across different domains, if necessary—when service is restored after an interruption. Automatic Logging and Alerting provides IT administrators with a real-time understanding of Server activity and status. Additionally, SMTP alerts are generated automatically and immediately when certain events occur, such as a subscriber account being locked out after a specified number of consecutive failed login attempts. Administrators are even notified when an updated version of Visto server or client software is available.

Finally, ease-of-use for the users substantially reduces the number of calls placed to the Help Desk. Other user-friendly capabilities also help minimize the burden on the support staff. For example, during most OTA upgrades to the Visto Mobile Client, data already synchronized to the device is retained intact, eliminating the need to perform a special—and troublesome—synchronization afterwards.

Solidly Secure and Trustworthy

Mobility requires stringent security. Putting it simply: the freedom to stay in touch while moving about imposes a responsibility on the enterprise—both the IT department and the users—to protect corporate information. This is why Visto Mobile was designed with robust, multi-layered security provisions built-in from top-to-bottom and end-to-end. These solid security features, combined with constant monitoring and dependable operation, make Visto Mobile totally trustworthy.

Designed to be Inherently Secure

Some push email systems queue or store data outside the firewall using a store-and-forward technique. Because this approach creates potential vulnerabilities, Visto Mobile instead pushes all data in real-time using advanced ConstantSync technology. Additionally, the system encrypts all packets as they leave the perimeter of protection established by the firewall.

With this fundamental design, Visto Mobile ensures that no corporate data is ever stored anywhere between the firewall and the user devices. Similarly, a user's corporate network login and Exchange/Domino account credentials are never transmitted outside of the corporate firewall. Finally, real-time, online access to the corporate directory eliminates the need to store employee lists on user devices.

Integrates Seamlessly with Enterprise Network Security Provisions

The Visto Mobile Enterprise solution operates seamlessly with the corporate firewall and any other existing security provisions, such as anti-spam and anti-virus systems that screen and protect email traffic. Some other push solutions require opening ports in the firewall to facilitate in-bound connections. But with Visto Mobile, no in-bound connections are required, so there is never a need to create any "holes" in the firewall. Because Visto Mobile uses only standard outbound-only ports, all traffic to user devices originates from within the enterprise perimeter protections.

Visto Mobile also integrates with the mobile operator's authentication system, and is compatible with security provisions utilized for hosted mailboxes. Users are authenticated at the NOC with a username and password established during the signup process. Optionally, users can have their passwords reset securely by the carrier through random password generation that only authenticated users can see.

Secure Mobile Email for an Entire Law Firm

A large law firm had standardized on email as the primary means of communications among the partners and other attorneys and staff. While everyone already used a PDA or a smartphone, the company was reluctant to implement a mobile email system for security reasons. The firm investigated several solutions, all of which were found lacking in one way or another. Some employed store-and-forward technology that would have been difficult or impossible to secure. The few that were secure enough would have required replacing most of the users' devices. And several did not support attachments, which was necessary for sending contracts, notices and briefs.

Only one solution—Visto Mobile—was able to meet all of the firm's needs. The use of encrypted, over-the-air push communications keeps all information protected by the firewall. In the event that any device ever gets lost or stolen, the administrator can immediately and remotely wipe it clean of all sensitive content. Visto Mobile also supports every user device in the firm, so everyone was able to keep his or her familiar PDA or smartphone. Some users like the system's ease-of-operation so much that they now use the Visto Mobile Client for their personal email accounts.

Alternatively, the device SIM can be authenticated through integration of the NOC with the operator's RADIUS server. The NOC authenticates to the clients using SSL server certificates; the Visto Enterprise Server is authenticated using a secure key. The Server is then able to employ end-to-end encryption keys to mutually authenticate with the mobile clients.

Protects the Privacy and Integrity of Corporate Information

Once authenticated, all data is encrypted before being pushed to ensure its confidentiality and integrity. Transfers between Visto Mobile components utilize SSL 3.0; over-the-air links utilize TLS 1.0. All data is, thereby, encrypted end-to-end (Server to Client) from behind the enterprise firewall to the user devices using FIPS compliant 128-bit Advanced Encryption Standard (not supported by J2ME clients, which only use SSL). In addition, Visto Mobile employs the Secure Hash Algorithm (SHA) to make certain all data remains unchanged during transmission.

Because end-to-end encryption is not possible with hosted mailboxes (owing to the limitations of the POP and IMAP systems) Visto Mail is only able to encrypt data transfers between the NOC and the devices. Data between the NOC and the POP/IMAP can be protected using Secure-POP and Secure-IMAP if the email servers support these security provisions.

Protects Against Lost or Stolen Devices

Because mobile devices are easily lost or stolen, Visto Mobile gives IT administrators the ability to erase or "wipe" all corporate email, personal email and PIM data from any device suspected of falling into the wrong hands. Such occurrences can be detected from alerts issued by failed login attempts and with a periodic password challenge scheduled by the IT administrator. Of course, in the event a user knows of the loss, s/he can simply notify the IT department to wipe all email and PIM data immediately. This same Remote Device Data Wipe capability can also be used when an employee quits or is terminated.

The Remote Device Data Wipe process itself is handled, like all communications, over-the-air from the enterprise data center. As soon as the device is powered up within range of the network, all email and PIM data is immediately and completely wiped out. If the user later finds the device, s/he need only login successfully to reactivate Visto Mobile and re-synchronize all data.

Maintain Total Control Over Security End-to-End

In addition to all of the security provisions just described (real-time access architecture from within the corporate firewall using only outbound-only ports with rigorous authentication and end-to-end encryption), all server configuration and user account provision settings are under the full control of authorized system administrators. Administrators have the ability to:

- Suspend or delete any user at any time
- Customize the subscriber welcome message for security alerts
- Enable or disable access to hosted mailboxes for individuals, groups of users or enterprise-wide
- Enable or disable session-based (daily authentication) challenge
- Activate or deactivate the password challenge functionality that forces periodic re-authentication of users
- Determine the "strength" of passwords (a case-sensitive, alpha-numeric string), and whether these are randomly generated upon provisioning, or manually specified by the user or administrator

Get a Guarantee of 99.9% Availability

The integrity of mobile email systems demands that they be totally dependable. Which is why Visto offers a Service Level Agreement (SLA) that guarantees 99.9% availability across Visto's network infrastructure. The Visto NOC is a carrier-class facility with fully redundant systems and 24x7 monitoring. All of Visto's carrier partners also operate carrier-class NOCs, and many provide similar SLA guarantees.

On the enterprise premises, the Visto Enterprise Server can be deployed in a redundant configuration with full mirroring capabilities. Constant mirroring affords a fast failover and a quick restoration of services. By forcing backups to occur continuously through active mirroring, potential problems related to either the NOC or the Server databases being out of synch are minimized.

Industry-leading Low Total Cost of Ownership

Visto Mobile has been designed to provide the industry's lowest total cost of ownership (TCO) and, thereby, yield the highest return on investment of any mobile email solution available—bar none. The initial costs are kept to a minimum with seamless integration into the enterprise network and broad compatibility with user devices. And the ongoing cost of pushing email using Visto's advanced ConstantSync technology is significantly less (with better security) than mobile email services that use SMS, store-and-forward or polling technologies. In effect, the bottom line with Visto Mobile is... a better bottom line for the company.

Low Capital Expenditure

Unlike other mobile email solutions that are so expensive they can only be cost-justified for the executive staff, Visto Mobile makes mobile email affordable enterprise-wide. A single Visto Enterprise Server handles multiple domains and multiple email servers for up to 1000 users. Additional users can be supported by creating multiple instances of the VES application.

Visto Mobile further minimizes the initial expenditure by imposing no other changes on the existing enterprise network infrastructure. There is no need to upgrade or make any changes to the groupware server. And all existing security provisions remain fully intact, including the firewall, other perimeter protections, virtual private networks, and any anti-spam or anti-virus systems.

From IT Trial to Enterprise-wide Deployment

The IT department at a government agency had been receiving an increasing number of requests for mobile email capabilities. Some of the PDAs and smartphones were provided by the agency; others were the personal property of the employees. The Chief Information Officer knew that mobile email could improve productivity, but was having difficulty calculating the return on investment (ROI) needed to justify the expenditure. The CIO was also concerned about security, as well as the challenges potentially involved in supporting many different devices on different cellular services.

The CIO assigned the project to investigate available solutions to an experienced administrator, who later came back with a strong recommendation to implement Visto Mobile Enterprise. The CIO was satisfied enough to authorize a trial with Visto Mobile Personal Edition, which has the same robust feature set as Visto Mobile Enterprise Server but can be implemented on a desktop PC. After only two weeks the CIO became convinced that a mobile email system would easily meet the ROI criteria based on its relatively low total cost of ownership and dramatic improvement productivity. The agency installed Visto Mobile Server, initially provisioning access only for the IT department. A month later, the capability was made available to any user requesting mobile email. And as before, the requests just keep coming in.

Perhaps most significantly, there is no need to buy and provision new devices for any users. With the industry's most comprehensive support of PDAs and smartphones, users can continue to use the devices they already have. This means there is no loss of productivity for either the IT department or the users (who would otherwise need to endure a conversion and learning curve).

Low Operational Expenditures

The previous two sections describe the various ways Visto Mobile's ease of use and management, and solid security help keep operating costs at a minimum—most notably by placing a low burden on the IT staff, requiring fewer calls to the Help Desk, and avoiding costly problems caused by security breaches.

The most significant ongoing cost with many mobile email systems, however, often involves the wireless services provided by one or more carriers. To keep these costs as low as possible, Visto Mobile gives the enterprise unprecedented flexibility to choose an optimal plan or set of plans based on voice/data usage and coverage, and not on some constraint imposed by the mobile email solution itself.

The cost of providing mobile email is directly proportional to the volume of data transmitted. This is why Visto designed the ConstantSync technology for peak efficiency in all over-the-air communications. Here is just a sampling of some of the optimization techniques employed:

- Message Truncation – By default, only the message header and first 2 KB of the message body are pushed to the user's device. The full message is, of course, available on request by the user.
- Attachment Downloads – Again by default, only information describing an attachment (file name, type and size) is pushed to the user's device, giving the user the option to retrieve it remotely or wait until returning to the office.
- Inbox Size Limit – Device-specific defaults are established automatically based on the memory capabilities of each PDA or smartphone, thereby ensuring that each user gets full utilization of his/her chosen device without wasting OTA minutes.
- Auto-Purge – If a user's Inbox ever gets full, the client automatically purges the oldest messages to ensure that any new messages are received.
- Smart Reply and Smart Forward – Users are able to reply to or forward messages from the mobile device without having to download the entire message body or attachments. Recipients are able to receive the original message body and any attachments, along with any new text or new attachments.
- Reduced Session Overhead – By maintaining a persistent IP session, Visto Mobile minimizes the overhead required when initiating the secure session between the device and the NOC.

Full Investment Protection

In addition to the low capital and operational expenditures, Visto fully protects the enterprise investment in both existing systems and the Visto Mobile solution. There are no changes required, or new versions, upgrades or patches to any groupware, email or network security provisions. There is no need to swap out any PDAs or smartphones, or change carrier service plans (unless doing so is advantageous). Similarly, new devices are supported soon after their introduction, allowing companies to take advantage of cost-saving introductory offers. And there are no hidden costs or fees.

As the many benefits of mobile email are realized, and the number of Visto Mobile users increases (beyond 1000 for Microsoft Exchange and 500 for Lotus Domino), the Visto Enterprise Server scales with the simple addition of another instance on the same server, or on a separate server if desired. And a single management domain oversees all Servers, allowing the IT department to maintain economies of scale in managing a virtually unlimited number of users.

Conclusion

Rarely does a product combine superior ease-of-use and security with lower costs. Visto Mobile was purpose-built for just such a combination. And with Visto Mobile, you are in control. You choose the wireless device or devices that best suit your employees and budget. You choose the carrier or carriers that offer the best plan(s). You choose the functions made available to all users. And you choose the level of security your organization needs to empower users with mobile access to email.

Still not convinced? Then try it for yourself! Visto makes it easy to get started with a trial or pilot program. Visto even makes a trial free on select devices. Visit Visto on the Web at www.visto.com to check out the current trial program. With Visto Mobile, you have nothing to lose—and everything to gain.

Company Information

Visto Corporate Headquarters

101 Redwood Shores Parkway, Suite 400
Redwood Shores, CA 94065 USA
www.visto.com or +1 650 486-6000

Visto UK

Davidson Building
5 Southampton Street
London WC2E 7HA, United Kingdom
Tel: +44 (0) 20 7845 5300

Asia/Pacific Headquarters

Holland Hills Mori Tower 16F
5-11-2 Toranomon, Minato-ku
Tokyo JAPAN T105-0001

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