Mobile Exchange (MobEx) @ Rensselaer

In August 2005, DotCIO announced Blackberry at Rensselaer (B@Re), then, in October of 2009, DotCIO announced the next generation of Rensselaer's mobile phone solution for Exchange users, **Mobile Exchange @ Rensselaer** (MobEx). MobEx is a self-funding subscription service with an annual fee, supporting mobile devices from RIM, that is, Blackberry and Apple. The **MobEx** program has been very successful, allowing DotCIO to support a large number of mobile users (more than 220 today), effectively and efficiently, with the smallest possible centralized staff resource.

Supported Devices

Since the introduction of a service supporting mobile devices, almost 5 years ago, we have tracked the smart phone market closely. We have purchased popular and promising devices from a variety of manufacturers to evaluate for use with the MobEx service, including, Google Android-based devices, the Palm Pre, and the Apple iPhone & iPad.

The most difficult aspect of supporting multiple devices is that of support and qualification. Many of the departmental administrators have limited access to smart phone devices and it is unlikely these support staff will be provided with multiple devices in order to familiarize themselves well enough to completely support them. No vendor other than RIM has as their raison d'être enterprise integration with Exchange through a strong, centralized management environment. Evaluating and qualifying (and decertifying) devices will continue to be difficult and resource intensive.

As of July 1st 2010, the Apple iPhone 3Gs, iPhone4, and the iPad devices will be supported MobEx @ Rensselaer devices in addition to the Blackberry family of devices. (*Please note that previous iPhone models are not supported, and any future iPhone models will be evaluated to assure they meet security requirements before becoming a MobEx @ Rensselaer supported device*).

The MobEx @ Rensselaer Program

- Eligible subscribers must
  - Take advantage of the Exchange Email Services provided by the DotCIO
  - Use only those devices supported by the MobEx @ Rensselaer program
  - Have a computer support person who will provide support for all aspects of their mobile solution.
    - In the event it is necessary, DotCIO will work directly with departmental computer support staff to address server-side issues.
- Each individual MobEx @ Rensselaer subscriber will be charged a yearly subscription fee (**currently $100**) which will be renewed each July at the then current subscription fee. Subscription fees are not prorated or refunded.
- With respect to Personally-owned devices:
  - They are discouraged, but allowed to be used with the program.
  - Because service-linked devices contain institute owned data, it is the responsibility of the employees who run the MobEx @ Rensselaer service to maintain control of that data and to protect the interests of the University, regardless of the terms associated with the ownership of the connected device.
  - The MobEx @ Rensselaer Subscriber must acknowledge that once separated from the institute, their device, personally-owned or otherwise, will be completely wiped and restored to factory defaults, removing any and all data stored on the subscriber's device and disconnecting the device from the Exchange service. ("Data" includes, but is not limited to, multimedia files, document files, address book information, Calendar information, and installed applications).

The BlackBerry Policy

An IT Policy will be created on the BlackBerry Enterprise Server (BES) which will be automatically downloaded and installed on each BlackBerry. The installation of the IT Policy will define, at a minimum, the following configuration settings:

  - Require a password to unlock the device
  - Require a Minimum password length of 4 alpha numeric characters.
  - Passwords must not contain many of the "most common" passphrases (ie "password")
  - Specify a Maximum of 10 failed password attempts before the device is wiped of all data
  - Specify an Inactivity time of 60 minutes
  - Limit Bluetooth Discoverable time

- o   Require a password for enabling Bluetooth and discoverable mode
- o   Keep messages on the BlackBerry for a maximum of 90 days
- o   Specify "Owner Information" field (Even on personal devices)
- o   Set owner name as "Rensselaer Polytechnic Institute (Even on personal devices)
- o   Specify the Home Page Address as: http://mobi.rpi.edu/blackberry
- o   Specifies that the device file system is encrypted (With the exception of Multi-media directories).

The Apple Device Policy

An IT Policy will be created using the Apple IT Policy tool which users will be required to download and install on their iPhone or iPad. The installation of the IT Policy will define the following configuration settings:

- o   Require a password to unlock the device
- o   Require a Minimum password length of 4 numeric characters
- o   Specify a Maximum of 10 failed password attempts before the device is wiped of all data
- o   Specify an Inactivity time of 60 minutes
- o   Force SSL encryption between the device and the Exchange server
- o   Install an 802.1x Wi-Fi configuration for use on RPI's wireless network
- o   Install a set of configuration options for external VPN access to RPI's internal network
- o   Install a Web Shortcut on the iPhone desktop linking to http://m.rpi.edu

Advantages of using the MobEx @ Rensselaer Service

- Data is delivered in real-time and without carrier (Sprint, Verizon, AT&T, etc) imposed mailbox quotas;
- Users have complete wireless, synchronized access to Exchange email, calendar, and contacts;
- Since all email services and data storage is local to RPI, Rensselaer support staff can directly assist them if difficulties arise;
- DotCIO has Blackberry evaluation devices, with service, available to users who are considering a MobEx @ Rensselaer as well as to any department computer support professional, for training and testing;
- Users can select which mailbox folders to make available on their BlackBerry, iPhone, and iPad.
- MobEx @ Rensselaer provides end-to-end encryption between the wireless handheld and the Exchange mail server, using Triple DES (3DES) and/or SSL and TLS. Data sent to each iPhone, iPad, or BlackBerry is encrypted by the server using the private key retrieved from the user's mailbox. The encrypted information travels securely across the network to the device where it is decrypted with the key stored there. Data remains encrypted in transit and is never decrypted outside of the Rensselaer firewall
- Data on secure digital memory cards (BlackBerry devices) can be encrypted to prevent unauthorized access by another device.
- If a supported handheld is lost or stolen, the MobEx @ Rensselaer administrator can remotely initiate a command that erases all data and eliminates the potential of exposing sensitive information. A recent survey noted that more than 85,000 cell phones were found in taxis in Chicago alone during a six-month period, only half of which were returned to their owners. When decision makers at Rensselaer have misplaced their Blackberry devices for an extended period of time, we have the ability to secure the information on these devices until they were located.
- All MobEx @ Rensselaer @ Rensselaer servers are housed at Rensselaer, secured behind multiple layers of firewalls.
- Security Policies are administered and distributed remotely by the MobEx @ Rensselaer administrator. These policies apply to the entire device rather than just the messaging client software. The MobEx @ Rensselaer service extends Rensselaer's security policies to the wireless device and provides the service administrator with tools to manage this security. To secure information stored on an iPhone, iPad or BlackBerry, password authentication is mandated through IT policies applied to all connected devices. Password authentication is limited to ten attempts after which the device's memory is erased.
- Local storage of data (messages, address book entries, calendar entries, memos and tasks) is encrypted by default using AES or 3DES encryption methods.

Advantages of choosing a BlackBerry

- Blackberry devices are a product family with multiple models, available from all the major carriers, all of which are supported by the MobEx @ Rensselaer program, including push-talk-models from Nextel used by Rensselaer service personnel and first responders.
- The iPhone 3G[S], while it is the first iPhone with hardware encryption using AES 256 bit encoding, is still not as secure

as a BlackBerry. The large number of Applications available for the iPhone coupled with the inherent flaws in the approval process could allow applications written with malicious intent to be installed and used to extract sensitive information from the device.

- Although no encryption is fool-proof, reputable tests reveal that the iPhone 3G[S] is easier to "hack" into, given the right tools and physical access to the device, than a BlackBerry device, despite the hardware encryption.
- If a BlackBerry device is temporarily misplaced, a remote command can be sent to the device, locking it immediately, regardless of any specified time-out settings, until the owner retrieves it.
- The BlackBerry Enterprise Solution offers two transport encryption options, Advanced Encryption Standard (AES) and Triple Data Encryption Standard (Triple DES)*, for all data transmitted between BlackBerry Enterprise Server and BlackBerry smart phones.
- Using the Password Keeper application, Advanced Encryption Standard (AES) encryption technology allows sensitive data to be stored securely on the device (e.g., banking passwords, PINs, etc.)
- System administrators can create and send wireless commands to remotely change BlackBerry passwords and lock the BlackBerry device on a lost or stolen BlackBerry at any time.

The above makes Blackberry option the most secure across the greatest range of devices and carriers when used in conjunction with the MobEx @ Rensselaer program. We recommend that users who deal with sensitive institute data choose to use a BlackBerry, rather than an iPhone, to conduct RPI business.

Conclusion

Over the last ten years, Rensselaer has maintained a very successful laptop program, the foundation of which is offering a single laptop model at any given time, and providing outstanding support around that model. It makes sense to leverage our very positive experience with mobile computing in mobile messaging.

We recognize that some people may prefer a mobile device other than the currently supported Apple devices or any of the Blackberry models. We acknowledge that MobEx @ Rensselaer is not better than all of the alternatives in every way. However, it is better in at least one very important way – MobEx @ Rensselaer is presently the best way for Rensselaer to provide Exchange users with supportable, affordable, reliable, and sustainable mobile services in a manner which protects the interests of Rensselaer.

The overwhelming consumer success of Apple's iPhone has motivated us to evaluate each new iPhone model, and to now qualify additional Apple devices as MobEx @ Rensselaer devices. We do not anticipate qualifying additional MobEx @ Rensselaer devices in the near future, however.

Next Steps

In order to start synchronizing your approved device with Exchange, you should begin by contacting a member of your computer support team, who will work with you. Your computer support person can assist you in configuring your device in the correct way, help verify that you are connected to the service, and assist in troubleshooting any issues and answer any questions you may have.