



Pylon Anywhere™ Overview

*A whitepaper from iAnywhere Solutions, Inc.,
a subsidiary of Sybase, Inc.*

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Introduction

Pylon Anywhere increases mobile worker productivity by delivering mobile and wireless access to Lotus Notes or Microsoft Exchange information including email, calendar, contacts, tasks and memos. It provides direct, server-based synchronization ensuring always available access to email and PIM information from the most popular mobile devices. With access to up-to-date information, even when a desktop or laptop is inaccessible, mobile workers can keep in touch no matter where the day takes them.

For the core synchronization devices, including Palm, Pocket PC, Smartphone and Symbian devices, messages and data from the server are synchronized and stored locally. As the device moves in and out of wireless coverage areas, connections to the server can be established to send and receive information. Because of this 'always-available' approach, these devices serve as the backbone of how users will typically access their email.

Pylon Anywhere also provides functionality to SyncML handsets. The server is SyncML enabled, so users can sync Contacts and Calendar information to wireless phones that are equipped with a SyncML client.

In addition to synchronizing data to these devices, Pylon Anywhere provides users with real-time browser-based access to their email/PIM server via a full-featured web application. There are versions of the web application for both PC browsers and WAP browsers. Pylon Anywhere can also push alerts to devices capable of receiving email or SMS messages. For WAP phones, this is particularly useful when combined with the ability to connect back to the server and browse for more complete information.

Summary of Specifications

Feature Highlights

- Full email and PIM sync
- Web and WAP access to email and PIM
- True email “push”
- Configurable alerts
- SyncML enabled
- Lotus iNotes contacts sync
- Advanced calendar entry handling
- Meeting request management
- Filtered Global Address List delivery
- Email attachment management
- Intelligent attachment forwarding
- Admin controlled sync profiles
- Dual settings for cradle vs. wireless
- Connection management
- Preview mail capability
- Multiple devices per user permitted
- Automatic device cleanup
- Checkpoint restart
- Full-featured Palm mail client
- MMC snap-in console
- Authentication options
- Extensive delivery filter options
- Automatic update mechanisms
- Simple client installation over the web
- Multiple encryption options
- Intelligent compression
- Wireless optimizations
- Variety of deployment options
- Remote administration

Sync Devices

- Pocket PC
- Pocket PC 2002
- Windows Mobile 2003
- Pocket PC Phone Edition
- Windows® 98/NT/2000/XP PCs
- Palm OS®
- Sony Ericsson P800/P900, Motorola A920
- Microsoft Smartphone 2002/2003

PC PIM Apps

- Microsoft® Outlook on PCs
- Lotus Notes® on PCs
- Palm Desktop

Email Servers

- Exchange 5.5/2000/2003
- Domino R5/6/6.5
- POP3 and IMAP4

Alert and Access Devices

- Mobile phones with SyncML client
- RIM™ BlackBerry™
- WAP browsers
- PCs with Internet Explorer
- Mobile phones with SMS capability
- Email pagers

Authentication Sources

- NT Domains
- iPlanet™
- Domino Authentication
- Any LDAP compatible source
- Internal / proprietary

Benefits of Pylon Anywhere

Handheld computing devices have invaded the enterprise through the back door. Frequently purchased by some of the most influential people within the organization, it is getting harder and harder for IT departments to deny support to these users.

Email access is the killer application that device owners reach for first. End users intuitively realize the huge productivity lift they get from having mobile access to email. They are able to be more responsive to internal and external people, while transforming downtime into productive communications time. Increased access to information within email and other PIM applications also makes the user more effective on the go.

Without any assistance or supervision by IT, users may install desktop software that enables the handheld to synchronize data from the corporate Exchange or Notes server. Meanwhile, the lure of traveling without a laptop and getting email via a wireless connection is increasingly strong to the executive ranks, field sales and field service personnel.

Productivity enhancements, security concerns, and demands for wireless access are thus driving corporate IT staff to provide a centrally-managed, server-based approach to email and PIM synchronization for handhelds. This approach also spares the user from unnecessary software installation, synchronization configuration, and data backup effort, all while improving the level of administrative control and supportability. In addition, choosing the synchronization model over a pure online access model ensures local access to stored information, even when outside wireless coverage or away from a phone port.

Pylon Anywhere provides the following benefits:

- ◆ Makes mobile workers more productive with email and PIM access
- ◆ Push and alerts notify mobile workers of new information
- ◆ Enables an 'always available' user experience
- ◆ Protects users from unnecessary configuration effort
- ◆ Offers a more secure, manageable approach than desktop sync
- ◆ Helps ease the pain of business travel
- ◆ Supports a broad range of devices and email access methods
- ◆ Is an important part of a total mobile infrastructure solution

Unique Features of Pylon Anywhere

Pylon Anywhere significantly raises the bar for server-based email and PIM access solutions. iAnywhere Solutions has focused on delivering powerful and useful features in the following key areas:

- ◆ [Push, Alerts and Scheduled Synchronization](#)
- ◆ [Top Notch Synchronization Quality](#)
- ◆ [A Great User Experience](#)
- ◆ [The Broadest Device Support](#)
- ◆ [Smarter PIM Sync](#)
- ◆ [Scalability and Communications Efficiency](#)
- ◆ [Unmatched Level of Security](#)
- ◆ [Powerful Tools for Easy Administration](#)

The following section details Pylon Anywhere's capabilities in each of these areas. Major features are identified with their significance and associated benefits explained. Drawbacks of alternative approaches will also be highlighted where appropriate.

This functionality detail serves as an appropriate basis for developing selection criteria for an RFP or evaluation process.

Push, Alerts and Scheduled Synchronization

Pylon Anywhere offers several mechanisms targeted for different types of devices to proactively update users with critical information. This allows users to receive hands-off updates, so that they do not need to worry about keeping current or manually triggering device synchronization.

Push for Email, Calendar, Contacts, and Tasks Pylon Anywhere offers true push for addressable Palm OS, Pocket PC, Smartphone and Symbian devices utilizing today's wireless networks. This means that the Pylon Anywhere server will see a qualifying inbound email for a user and automatically send it out to the user's device. Without any effort, the user will receive the email in their device Inbox in real time once it has been received at the server, providing an 'always available' experience. Users have a great degree of control over the filters and options that drive the push activity. Push is performed using SMS to offline devices, and directly to devices that are currently connected to the network.

Easy Push Configuration Using the Pylon Anywhere web application, a user can set a range of configurations to tell the server what type of information should be pushed to the device. The user can pick the specific PIM applications they would like synchronized, as well as the days of the week and hourly range. For

instance, one might choose to push just email and calendar updates on weekdays between 6 am and 6 pm.

Email Push Settings A wide variety of options enable the system to be selective about the specific email messages that trigger a server push. Some of the user-selectable criteria include:

- ◆ Unread only
- ◆ User name in the 'To' list
- ◆ High priority only
- ◆ Meeting Requests
- ◆ Sender name contains ...
- ◆ Subject line contains ...

Alerts for Email and Calendar Pylon Anywhere provides a broad proactive notification capability that works with any device capable of receiving email or an SMS message. Similar to Pylon Anywhere's push capabilities, the server sees an incoming message or upcoming event, and proactively notifies the mobile device.

Alert Options For email, a truncated version of the message is forwarded. For calendar entries, a daily calendar update is mailed at a specific time each day, and any updates to that day's events can trigger a calendar update alert message to be sent. Reminders can also be sent to notify the user of an upcoming appointment.

ReadySync Interval Sync Pylon Anywhere offers an additional automatic update mechanism called ReadySync. This is an interval-based sync that will periodically wake up the device, initiate a network connection, perform a synchronization session, and then shut the device off. In this case the device is not technically always connected, but to the user, the experience mimics that of an always connected device. The user does not need to do anything to receive updates and email messages.

ReadySync Configurations To make sure that power and bandwidth are protected from unnecessary usage, the user can configure several ReadySync settings. They can select the length of the interval between sync sessions, the days of the week and an hourly range for ReadySync to be active. ReadySync is bandwidth aware, and can use different sync profiles for high speed vs. low speed connections. The ability for ReadySync to establish a network connection on its own also can be turned on or off. In addition, the user can configure ReadySync to wake up and run in the background anytime they first establish a network connection.

Top Notch Synchronization Quality

If users can not rely on a synchronization solution to preserve their data and make it available without distortion or omissions, then ROI will be hard to come by and support costs will be significant. This makes providing a high level of synchronization quality a fundamental requirement for providing a great user

experience. Attention to detail in this area is absolutely key. Pylon Anywhere does not cut corners in this regard.

Applications Synchronized The full portfolio of email and PIM applications is updated on sync devices when connecting to the groupware server. The data synchronized includes the following:

- ◆ Email (Inbox, Inbox subfolders, Drafts, Sent Items)
- ◆ Contacts (Including Domino iNotes contact sync)
- ◆ Calendar
- ◆ Tasks or To-Do List
- ◆ Memos (Called Notes on Pocket PC)

Meeting Requests Another area of importance is the handling of meeting requests. Users should be able to create, receive, accept, deny, and tentatively accept meeting requests on the handheld device. They should also be able to view requests in their calendar, and send updates or notices related to a meeting. Pylon Anywhere offers full support for this functionality, with some device-specific limitations inherent to particular platforms.

Multiple Time Zones Domino and Exchange provide time zone management capabilities related to meeting requests for individuals in different time zones. For instance, an intra-company conference call between Europe and the US must have the time recorded accurately in each attendee's calendar. Pylon Anywhere integrates flawlessly with this functionality so that meeting requests appear accurately in all attendees' calendars regardless of their time zone.

Global Address List Delivery The ability to deliver the corporate global address list is an important capability that adds convenience to the end user and facilitates meeting scheduling. For some corporations, the sheer size of the list makes it unattractive to deliver the entire list. Pylon Anywhere provides the ability to deliver the entire Global Address List, or select portions. Delivering limited subsets is simplified by basing this capability on distribution lists. Individual users or user groups can be assigned to receive the individuals on just those distribution lists relevant to their work life. Users may also select particular distribution lists they want to receive, and may choose to download a fresh copy of their portions of the GAL at any time.

Deletes Captures, Not Inferred Less sophisticated solutions will infer deletion of PIM records if the record no longer exists on the client device. If deletes are inferred, it is possible to mistakenly delete all of the server data for a device that has been compromised or reset. Pylon Anywhere behaves differently, actually capturing the record deletion event to bring back to the server.

Read Mark Management Due to subtleties of the internal mechanics of different email servers, accurate synchronization of 'read marks' is technically challenging. Pylon Anywhere supports full synchronization of read marks.

Device Merge Pylon Anywhere can keep multiple devices and email clients in sync for the same user. A single user might sync their SyncML enabled phone, a Pocket PC handheld, and Outlook® at both home and office. As they add or

substitute devices over time, it is important to be able to 'merge' that device and any data on it in with the others. Managing duplicates and combining records without losing data is actually very complex, and Pylon Anywhere has unique technology to accomplish this.

Recurring Entries Including Exceptions Pylon Anywhere stores recurring calendar and task entries accurately in the intended manner, including very complex recurrence and exceptions to the recurring entries. Some competitive products do not have this capability, and instead expand the single recurring record on the server into multiple records on the handheld. Thus if a user wants to move a recurring calendar entry on their handheld, they would need to move every single instance. This is not the case with Pylon Anywhere.

Filter Management Options With Pylon Anywhere, administrators can set defaults for all filter options by user or user groups, and by application. In addition, administrators can turn on and off the ability of end users to change their defaults. For instance, the administrator may decide to conserve bandwidth by choosing to globally prevent AutoCAD® attachments from being synchronized to Pocket PC devices since they cannot be opened on those devices.

Field Level Sync Surprisingly often, different parts of specific records are updated on different devices or through direct server access. This creates synchronization conflicts that can result in lost data if not handled properly. Pylon Anywhere uses the most granular sync level possible and only moves the specific fields that have changed. This also drastically reduces session lengths. The alternative approach, synchronizing the entire record, is very inefficient and can overwrite important data.

A Great User Experience

Pylon Anywhere offers an excellent user experience, making it easy for users to get information updates, review and adjust their synchronization settings, and see what is happening during each session. Basic settings can be controlled from the device, with more advanced settings such as email push filters being controlled from the web application.

Profile Settings With Pylon Anywhere, there is a wide variety of configuration settings that govern the system behavior. These can be very individualized or very standardized depending on the degree of administrative control desired. These profile settings can be dynamically adjusted by users to meet their changing needs, protect limited device storage, affect session lengths, or deal with different connectivity modes. For instance, a user may opt not to sync attachments because they desire the quickest possible sync time. More detail about profile settings is described in the administrative tools section below.

Dual Sync Choices One very common situation is to have a handheld device switch back and forth between high speed cradle and a lower speed wireless connections. Instead of requiring the user to constantly switch their profile settings back and forth to accommodate, each Pylon Anywhere profile supports two different ways of synchronizing, referred to as Sync and SyncXpress, each with its own settings. For instance, the SyncXpress settings might be optimized

for a wireless connection with more stringent attachment filtering and more aggressive email message truncation to keep synchronization times down. The client application displays a button for each sync method.

Email Sync Settings Email tends to drive the bulk of data traffic to and from the device, compared to the other PIM applications. Email can be truncated if the message body exceeds a certain length. In addition, email is automatically cleaned up off the device after it reaches the configurable age limit, keeping the device clean, but without requiring the email messages to be deleted from the server.

Email Attachment Handling Email attachments often present challenges to the handheld device due to size and file format. Pylon Anywhere offers a variety of options for intelligently managing the delivery of email attachments. Email attachments can be turned off and on, and attachments delivered can be filtered by size and by file format. Users are informed of attachments that have been filtered out, and can choose to override the filters for individual attachments that they wish to see.

Intelligent Attachment Forwarding Even if a device is not able to view a specific attachment type, the user may want to forward the email, including the original attachment, to another individual. With Pylon Anywhere's intelligent attachment forwarding, the original attachment of an email message will get forwarded, even if it wasn't available from the device. For example, if a user receives an email message while on the road with an urgent attachment for review, the user could forward that email, including the attachment, to a colleague, even if the attachment was never synchronized to the device. Competitive products will often send only the forwarded text, and strip any attachments that were not synchronized to the device.

Preview Mail Preview Mail is a powerful feature that gives the user an interactive experience for managing mail delivery. With Preview Mail turned on, the user is prompted during a synchronization session with information about the email messages that are about to be downloaded to the device, including any attachments, message size, truncation status, sender and subject information. Based on this information, the user can request that specific messages or attachments be delivered or not delivered. Also, truncation can be 'over-ruled' and obvious junk messages can be deleted prior to delivery. This allows the user get specific email messages that they are expecting, while enabling them to block unnecessary information.

Review Mail Review Mail works very similar to Preview Mail, but it is an offline activity that influences the activity of the next sync session. This allows users to set extremely aggressive filter settings for attachment delivery and email truncation, and then easily look through email messages that have already been delivered. It provides a much simpler interface for handhelds for quickly moving through a list of email messages and selecting those to delete, receive attachments, or override truncation. Pylon Anywhere also integrates with the Retrieve Mail functionality of Pocket PC devices.

Ease of Client Installation The installation process for the Pylon Anywhere client software is very simple. Even if technical staff are able to pre-configure

devices, it is fairly common for a device to drain its battery, erasing all memory. Thus, it is important for the client-side synchronization software to be easy to install. With Pylon Anywhere, the client install routine can be posted just a click away on an intranet or Internet web site. After the hands-off install routine runs, the user clicks 'Sync', enters their password, and is ready to synchronize and restore their device. This provides an effective backup strategy for the device as well.

No Configuration Effort Required Pylon Anywhere spares the end user from having to participate in configuring their device for synchronization. Administrators set user profiles at the server, are able to package initial user configurations into the client install, and are able to setup default profiles for new users. This keeps users productive, and eliminates calls into the help desk, protecting ROI on the deployment.

Full-featured Palm Mail Client For Palm devices, Pylon Anywhere installs a full-featured mail client called SyncMail. This mail client offers advanced features such as meeting request support, attachments, selective attachment downloading, sort options and subfolder handling. Two attachment viewers, QuickWord and QuickSheet are also included for viewing text, document, spreadsheet and comma-separated files. SyncMail provides an intuitive and powerful interface for managing and composing email messages from Palm devices.

Session Control The end user needs to have a view into the synchronization session as it happens, as well as some basic controls. Pylon Anywhere offers detailed status messages during the sync session and a cancel button to end the sync session if desired. The client software also includes a byte counter that is updated throughout the session. Users also have the ability to select the type of information synchronized in a given session. For example, they may choose to update just their email, and defer calendar and contact updates for later. Session control is further extended by the Preview Mail functionality described above.

Multiple Connection Modes As today's mobile worker logs more and more time away from office LAN connections, multiple device connection modes need to be supported. The dual profile feature is especially valuable where users will switch frequently between connection methods. Pylon Anywhere supports all of the following methods:

- ◆ Wireless public networks (GSM, GPRS, CDPD, TDMA, CDMA, etc.)
- ◆ Wireless LAN (i.e. 802.11)
- ◆ Ethernet Cradle
- ◆ PC Cradle (leveraging the PC's network connection)
- ◆ Wireline modem
- ◆ Wireless phone attached to handheld
- ◆ Wireless infrared

Automatic Wireless Connection Management When the Pylon Anywhere client application synchronizes with the server, it first checks for an available

network connection. If one is not found, it automatically initiates a network connection if possible. Most importantly, when the synchronization session is over, the client will automatically end the network connection. Less sophisticated solutions may not 'hang up' and thus may leave an expensive wireless connection open indefinitely.

View Connection History The end user has access to the synchronization logs on their device. This is helpful for confirming expected information arrived, and facilitates troubleshooting. For instance, if a wireless connection drops mid-sync, Pylon Anywhere will inform the user of the specific problem so that they know to just re-sync. Competitive products offer less useful generic updates such as 'Session Complete with Errors'. In this scenario, that approach would likely confuse the user and spur them to call into the helpdesk, increasing support costs unnecessarily.

Automatic Device Cleanup Pylon Anywhere protects limited device storage with an automatic cleanup facility. This works by removing old email messages from the device automatically, where the number of days is configurable by the end user or administrator. With this feature, a device can be kept free of old email messages without forcing the user to delete the data on the server.

One Button Connect With Pylon Anywhere, a user can manually launch a synchronization session using the Pylon Anywhere client via a simple one-button connect. This initiates the network connection and starts the synchronization session. Many solutions overtax users with a multi-step sync process. One-button synchronization eases end user burden and increases the utility of the device.

The Broadest Device Support

Pylon Anywhere gives users access to their email and PIM data from a broad array of devices, with different levels of capability taking advantage of the device characteristics.

Full Sync Devices These devices receive complete updates for email and other PIM applications. The user is able to work offline, and connect occasionally for updates. The following devices are supported for full synchronization to the native email and PIM applications, or other applications as noted:

- ◆ Pocket PC, Pocket PC 2002 and Windows Mobile 2003 handhelds
- ◆ Pocket PC Phone Edition smartphones
- ◆ Handheld PC, and other Windows CE devices
- ◆ Microsoft Smartphone 2002 and 2003 devices
- ◆ Palm OS handhelds and smartphones, using Pylon Anywhere's SyncMail mail client
- ◆ Symbian 7 UIQ devices
- ◆ Windows PCs (Outlook, Notes, Palm Desktop)

Alert Devices Alert devices are capable of receiving server-based alerts sent via email or SMS message. Alert devices include:

- ◆ Digital phones with SMS capability
- ◆ RIM™ BlackBerry™
- ◆ Email pagers
- ◆ Any other email or SMS capable device

SyncML Devices SyncML is an industry standard for synchronizing devices. The initial specification supports Contacts and Calendar sync. Pylon Anywhere is SyncML certified, giving it the ability to automatically support new handhelds and phones that ship with a SyncML client. Nokia, Sony, Ericsson, Motorola, Samsung and others have partnered on the SyncML initiative, and it is expected most mobile phones and smart phones will ship with the SyncML client installed.

Browse Devices Pylon Anywhere offers a real-time browser-based access option to users. This allows users to check their email and PIM data even when they can not access one of their core sync devices. This is supported for digital phones with a WAP browser, as well as from PCs running Internet Explorer. The Pylon Anywhere web and WAP clients are fully featured, supporting email, Contacts, Calendar, meeting requests, global address list access, Tasks, and Memos. The PC web version also provides the ability to view logs, setup new devices, configure alerts, and manage trips and appointments.

Smarter PIM Sync

Pylon Anywhere expands the definition of PIM sync to include additional highly personal and contextually-relevant information. Users are able to create extended information for trips and appointments, which will be displayed in an organized manner on their devices. This area of functionality is truly unique and groundbreaking, and helps take mobile user acceptance and productivity to a new level.

Appointments Pylon Anywhere extends the functionality of Notes and Outlook by allowing users to link appointments on their calendar to contacts in their address book. The Pylon Anywhere web client can be used to create these appointments. These special appointments key the server to gather this additional contextually-relevant information and make it available to all of the user's devices.

Trips Pylon Anywhere provides the capabilities from the web client for users to create "trips". With this feature, users can enter their flight, hotel and car rental information from an easy-to-use interface. This information can be synchronized to all of the user's devices, and made easily accessible while on the road.

Alerts The server-based alert capability described above will also send users timely alerts with their trip and appointment data. For instance, on the morning of a trip, the user would receive email alerts on their phone with their flight times, seating assignment, and confirmation numbers. They could also receive an alert on their phone with the name, time, and contact information of the person they were flying in to meet with. Users automatically get this information 'shipped' to their device.

Scalability and Communications Efficiency

Another key component of the total cost of ownership of a mobile solution is the networking costs associated with supporting the mobile user community, and the ease with which the solution can be scaled to meet growing user demand over time.

Scalable Clustered Architecture Pylon Anywhere supports a large number of concurrent users per server. Pylon Anywhere also supports clustered servers so that the solution can scale easily to accommodate the size of your user community. It is rare to see more than 10% of the user base connected at any one time, and for most organizations the maximum concurrent connections ratio is lower than that.

Check-point Restart Mobile communications can be unreliable with frequent dropped connections. Pylon Anywhere uses check-point restart to minimize the impact of dropped connections. The server keeps track of the last acknowledged packet, and resumes transmission where it left off. For example, dropping a slow wireless connection after 90% of a 100Kb email attachment is transmitted does not require retransmission of the entire file. This has great usability implications and ensures more cost-efficient communications.

Compression Communications between the Pylon Anywhere server and client are compressed to protect bandwidth and minimize connect times. For email, both the message body and any attachments are compressed. Because compression of very small units of information may actually decrease communications efficiency, Pylon Anywhere selectively compresses based on the size of the communication. In addition, Pylon Anywhere pre-compresses the information at a high level instead of breaking it up into packets and then compressing. This results in a much more bandwidth-efficient communication.

Enabling Hosted and Carrier Environments Pylon Anywhere provides a deployment option that allows service providers to deploy mobile email and PIM capabilities to individual users, workgroups or companies without requiring a direct connection to a Domino or Exchange server. This capability can also allow service providers to offer POP and IMAP users the same benefits as enterprise users, including the synchronization of data to a mobile device, push, and alerts. Unlike a simple redirector, this capability uses a small client application on a user or administrator computer, which acts as an agent to enable two-way synchronization of email and PIM information.

Distributed Components Installation The server components of Pylon Anywhere can be installed on separate servers to accomplish greater scalability. For instance, the web server, Mobile Gateway, synchronization engines, and administrative database can all be placed on different physical servers.

Wireless Optimizations Pylon Anywhere uses the Pylon Anywhere Mobile Gateway, a highly robust and efficient engine that manages communications between client and server components. The Pylon Anywhere Mobile Gateway uses an advanced message queuing architecture, packet optimization technology, and binary XML for extremely efficient communications over wireless networks.

Smart Attachment Filtering Part of each sync profile is a limit on the size of email attachments that will be delivered. Pylon Anywhere applies the limit to the total size of all the attachments to the email once they have been compressed. For instance, if the limit is set to 200Kb, then a 500Kb attachment that compressed to 50Kb would be delivered. Meanwhile, if a single mail had 20 attachments of 199Kb that compressed to 20Kb each, it would not be delivered since the total size (compressed) would be 400Kb, which would be over the limit. Other products apply simpler logic by just looking at the original size of each file. In the above examples, that would mean that the 50Kb compressed attachment would NOT be delivered, and that the very large mail with 20 attachments WOULD be delivered, exactly the opposite of what makes sense to do in a mobile environment.

Flexible Logging Detail Level At certain times extremely detailed logging is beneficial, particularly during initial rollout or when environmental factors cause users to experience a high level of problems. During these times, administrators may wish to ramp up the level of system logging detail to facilitate troubleshooting. During more routine periods, the detail level could be turned down. There is always a small trade-off between system performance and logging level, so this flexibility to meet changing needs is important. Pylon Anywhere provides this flexibility.

Unmatched Level of Security

iAnywhere Solutions recognizes that providing the highest level of security is absolutely essential when deploying strategic corporate information to mobile devices. Our products are built from the ground up to protect your data.

User Authentication Pylon Anywhere offers its own internal user authentication capability. In addition, existing authentication options can also be leveraged. This approach decreases administrative overhead and also imposes less burden on end users. Even if existing authentication options are used, the internal Pylon Anywhere capability can be useful for testing. Note that multiple methods can be used simultaneously, though for each user only one method is used. The following forms of authentication are supported:

- ◆ LDAP authentication
- ◆ NT domain authentication
- ◆ Domino authentication
- ◆ Pylon Anywhere authentication

User Disablement Administrators are able to 'turn off' a specific user, user group, or device. For example, they may disable the account of a stolen device so that no unauthorized persons are able to sync with company servers.

Encryption Options Pylon Anywhere allows administrators to select the encryption options that best meet their needs for balancing the level of security with communications efficiency. Administrators may assign different encryption options to different profiles. The following encryption options are available:

- ◆ FIPS 140-2 certified Triple DES (112-bit)
- ◆ FIPS 140-2 certified AES (128-bit)
- ◆ SSL
- ◆ No encryption

Credential Expiration Options System administrators can prevent storage of network credentials on the device by forcing users to enter a password each time they connect to the network to synchronize. To support more frequent synchronization including automatic synchronization, there is also an option to allow credentials to be stored on the device for a configurable length of time. In this case, the actual user password is required during the first synchronization, and after successful connection the encrypted user credentials (including username, password, unique device ID and expiration date) are stored as a “token” on the device and considered valid by the server for a set length of time. This provides a flexible method to balance usability with security.

Flexible Access to Groupware Server Because deployment strategies and configuration options differ from company to company, Pylon Anywhere offers flexible methods for accessing Domino and Exchange servers. For access to Exchange, user domain account credentials and courier accounts are supported. For access to Domino, HTTP passwords and courier accounts are supported.

Session-based Key Exchange Each synchronization session generates new encryption keys to ensure security. If a malicious party manages to eavesdrop and somehow ascertain a session key, it will only be valid for that session. Given that synchronization sessions are typically short and frequent, this makes it difficult to compromise the encryption in a meaningful way.

VPN Support Pylon Anywhere is compatible with third party handheld Virtual Private Network (VPN) solutions such as Certicom’s Movian product. This enables an additional layer of security and simplifies some network configuration issues.

Powerful Tools for Easy Administration

iAnywhere Solutions has years of experience providing mission-critical solutions to large enterprises. We understand the need for powerful and flexible administrative tools and offer a solution that is centrally-managed, easy to configure, and easy to support.

Administrative Profiles Pylon Anywhere makes it possible to extensively model system behavior using a wide variety of configuration settings. These settings are managed as ‘profiles’ that are controlled from the central administrative console. A GUI wizard makes defining profiles easy for administrators, and the profile settings are loaded onto individual devices the first time a user synchronizes.

Granular Control Over Profiles Administrators can also decide how much, if any, flexibility users will be granted to modify their profiles. For example, the administrator can set an email truncation rule that users can modify, and as part of the same profile set an attachment filtering rule that users are not allowed to modify.

Multiple Profiles Pylon Anywhere users in an organization may work for different departments, carry different devices and have different requirements. As a result, Pylon Anywhere includes the ability to build an unlimited number of synchronization profiles to ensure the synchronization process is optimized for different user communities. Individual users and groups are then assigned to the profile created to meet their needs.

Profiles Support Different Modes Because a user's situation may change frequently, it is important to make it easy to switch back and forth between synchronization modes. For instance the user will switch from wireless sync to cradle sync, and different profile settings may be appropriate for each mode. Thus part of the administrative profile includes two groups of settings, one for the Sync mode and one for the SyncXpress mode. The profile also includes many settings that are not mode-specific.

Automated Mailbox Management With any large number of users, the location of user mailboxes on particular groupware servers is subject to reasonably frequent change. Pylon Anywhere simplifies administration by automatically locating the user mailbox on the first sync, as well as automatically re-locating mailboxes that have changed servers. Thus, when a user's mailbox location changes, they do not experience any interruption to service and they do not bog down the help desk with synchronization errors.

Real-Time Monitoring The Pylon Anywhere Admin Console includes a real-time monitoring capability for watching CPU usage, database transactions, database connections, web server throughput, message queue size, gateway transmission, and more. This is complemented by historical reporting for different levels of detail, such as daily, hourly, etc.

Automatic Deployment The geographic dispersion of mobile computing deployments creates unique challenges for IT staff. It is very important to make installation as easy as possible for the administrator, while protecting the user from undue involvement. Frequently the handheld devices to be supported already exist due to corporate or personal purchase, and it is not possible to do the same form of initial imaging that would have been done if the device had been purchased by the organization. Pylon Anywhere overcomes this challenge by providing a hands-off automatic deployment option so that users can easily self-install without sending their devices to IT.

Integrated Device Management Pylon Anywhere offers functionality for managing client deployment, reporting on system activity, client upgrades, and other basic device management capabilities. iAnywhere Solutions also offers separately a complete systems management solution for lowering the total cost of ownership of mobile devices as part of a complete mobile solution.

Act As User Pylon Anywhere includes a web interface for users to manage their portfolio of sync and alert devices, including a wide variety of configurations. When a system administrator is reviewing a user status in the admin console, they can select the 'Act as User' option to quickly log in to the web interface as that particular user. They do not get access to the user's email, calendar, or other data, but they are able to see all of the configuration pages exactly as the user would. This assists with remote troubleshooting or training.

Automated Client Discovery System administrators have the option of allowing any user who installs client software to connect to the server and begin synchronizing email and PIM data. Thus controlling initial access to Pylon Anywhere is as simple as managing the distribution of client software.

Remote Administration Basic but not to be forgotten, remote administration allows administrators to manage the system while not physically located at the server.

Administrator Roles Often, an organization may have individuals responsible for different aspects of a Pylon Anywhere deployment. For this reason, Pylon Anywhere allows administrators to be defined with specific roles and permissions. Here, one administrator may have permission to modify profiles from the Administration Console, while another administrator may only have permission to view log information.

Comprehensive Logging Detail Pylon Anywhere's detailed logging enables administrators to quickly and easily troubleshoot any problems end users are having. The logs can also be used for high level aggregate reporting to facilitate planning. Connection dates and times, number of additions/changes/deletes by application, server name, and errors/exceptions are all tracked in the logs.

Log Data Stored in SQL Anywhere In addition to controlling the synchronization process, Pylon Anywhere allows administrators to track a variety of user behaviors and captures this data in a Sybase SQL Anywhere database. Storing log data in this manner enables hierarchical tree views of log data and also allows administrators to define custom reports using an included reporting tool called Interactive SQL.

Console-based Log Views Console-based log views are preferred to predefined report generation for day-to-day troubleshooting. The console approach makes viewing logs an integral part of defining system behavior and managing users, simplifying the process. Console-based log views also allow rapid drill down into specific log data to support troubleshooting. Pylon Anywhere provides a wide variety of interactive log views from within the admin console. Logs can be sorted or filtered by a variety of factors including specific user, device, type of event or time period.

HotSync Compatibility Pylon Anywhere is fully compatible with the native HotSync® utility for cradle synchronization for Palm OS devices. Pylon Anywhere 'takes over' the email and PIM synchronization conduits, but lets HotSync perform other required activities. Triggering a HotSync connection will automatically launch Pylon Anywhere's capabilities to update the device's email and PIM information. Other products break HotSync, requiring a confusing two-step installation and replacing HotSync with a proprietary proxy solution that takes over all of the serial communication to the cradled device.

Installation Debugging Tools Part of the Pylon Anywhere installation program is an Environment Analyzer. This tool validates an installation environment and gathers all required information before an installation begins. This eliminates many errors often discovered after an installation, such as connectivity problems or incorrect access privileges.

Default User Profile Administrators can setup a default profile for new users. This enables a new user to begin synchronizing immediately. Combined with the user auto-discovery function, this allows for new users to quickly and easily start synchronizing without any administrator intervention. Custom user settings or assignment to a group profile can take place at a later time.

Advanced User Management Administrators are able to import user lists and user group assignments from existing directory services. This prevents duplicate administrative effort and decreases error potential. Pylon Anywhere offers a variety of integration options for user list management, as listed below. Multiple sources can be used simultaneously.

- ◆ Active Directory™
- ◆ iPlanet
- ◆ Any other LDAP-compliant source
- ◆ Windows NT® Domains
- ◆ Text or other database source

All user management is completely unified within the admin console regardless of the type or number of devices a user employs, or the directory services source the user comes from.

MMC Administration Pylon Anywhere features a Microsoft Management Console snap-in. This allows administrators to manage the core server attributes, the synchronization server software, and other common applications from the same administration console. In addition, it ensures a consistent and familiar look and feel to management tools. Web-based tools, an alternative approach, are generally less flexible and powerful, and more difficult to learn and use.

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