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New Features

Sybase Unwired Platform 2.2 SP02

Contents

Contents

New Platform Features

Sybase® Unwired Platform 2.2 SP02 includes new features that support development and management of the system.

Note: See *Supported Hardware and Software* for the list of devices, operating systems, APIs, and tools that Unwired Platform currently supports.

- *REST API Applications*

    The REST API exposes the Sybase Unwired Platform features as services that can be consumed from any HTTP-enabled SDK, without Unwired Platform-specific libraries. Develop applications in the native development platform of choice (such as Sencha, Appcelerator, and Cordova—formerly PhoneGap), and use the services with client libraries provided by supported operating systems.

- *Security*

    This release includes enhancements that increase security for OData clients in specific landscapes, enable you to integrate your existing security landscape with Unwired Platform, implement role-based automatic on-boarding, and control data change notification (DCN) authentication and authorization. Anonymous login capability provides underlying support.

- *Architectural Modifications*

    Implement Unwired Server scale-out nodes in your landscape to add load balancing for REST API applications.

- *Supportability*

    This release provides additional integration of supportability tools, including SAP® Solution Manager, SAP Change & Transport System (CTS/CTS+), and HP LoadRunner.

- *Mobile Business Objects*

    Composite operation support has been added, with enhanced input and output mapping for mobile business objects (MBOs) in a composite relationship.

- *Object API Applications*

    New or changed features for native client Object API development include using Afaria certificates for device authentication and standalone Afaria libraries; writing to the database while synchronizing; synchronization parameter enhancements; consuming a native (push) notification; tracking KPIs; performing end-to-end trace from the device client; and supporting HTTPS. Customization resource bundles are now available for Object API applications; message text can be localized and customized; and BlackBerry signing is handled through a new API.

- *Hybrid App and Hybrid Web Container*

    New or changed features for Hybrid App and Hybrid Web Container development include enhancements for Hybrid App Designer and Hybrid Web Container; capability to develop

Hybrid Apps using third-party tools such as Sencha and Cordova (formerly PhoneGap); capability to develop Hybrid Apps with OData calls; end-to-end tracing; refactored development APIs, new JavaScript APIs, and enhancements for Hybrid Apps.

- *OData SDK*

  New or changed features for OData SDK include refactored OData SDK APIs, DataVault classes for iOS, Android, and BlackBerry, standalone Afaria libraries, native notification, streaming support for large objects, and end-to-end tracing for iOS and Android.

- *Administration*

  New or changed administration features enable you to use Sybase Control Center to configure cluster-level server settings, automate Hybrid App and application distribution by roles, set the BlackBerry messaging portioning response limit, manage HTTP log settings, configure application-specific native notifications, and modify Hybrid App client variables. Security and Notification API SDKs are now available, and the Management API has been enhanced.

REST API Applications

The REST API exposes the Sybase Unwired Platform features as services that can be consumed from any HTTP-enabled SDK, without Unwired Platform-specific libraries. Develop applications in the native development platform of choice (such as Sencha, Appcelerator, and Cordova—formerly PhoneGap), and use the services with client libraries provided by supported operating systems.

Services include:

- Application registration
- Authentication and single sign-on (SSO)
- Native notification (sometimes called push)
- Configuration

The REST API supports online cases. This development archetype implements the HTTP channel, and capitalizes on security enhancements and architectural modifications to provide fast and secure service-enabled applications. You can configure native notification properties for an application through Sybase Control Center. If enabled, any newly created application should be immediately available via HTTP without further configuration. Unwired Platform domain-level logs collect data related to the HTTP channel, including push, proxy, dispatcher, and application data. You can develop applications so they can be monitored through Sybase Control Center.

Documented in:

- *Fundamentals*, see *REST API Applications*
- *Developer Guide: REST API Applications*, see:
    - *Prerequisites*

- *Developing the Application*
- *Reference*
- *Developer Guide: OData SDK*, see *Using REST API Services with Online Data Proxy*
- *Sybase Control Center for Sybase Unwired Platform*, see:
  - *Application Connections*
  - *Setting General Application Properties*
  - *Native Notification Properties*
  - *Domain Log Categories* – see information for Push, Proxy, Dispatcher, and Application logs.

Security

This release includes enhancements that increase security for OData clients in specific landscapes, enable you to integrate your existing security landscape with Unwired Platform, implement role-based automatic on-boarding, and control data change notification (DCN) authentication and authorization. Anonymous login capability provides underlying support.

Security Administration Enhancements

- **SiteMinder client authentication –** has been added for OData clients. This enables client-side SSO (token) based authentication for specific landscape scenarios.

  Documented in: *Security*, see *SiteMinder Authentication with Sybase Unwired Platform*
- **Security API –** provides an extensible model for integrating Sybase Unwired Platform with your existing security landscape. Common Security Infrastructure (CSI) login modules conform with Java Authentication and Authorization Service, and enable Sybase Unwired Platform to integrate with a custom provider (for example, user mapping).

  Documented in: *Developer Guide: Unwired Server Runtime*, see *Security API*
- **Read-only administrative access –** a new default SUP role has been added—SUP Helpdesk— which provides read-only access from the administration interfaces (SCC UI and Public Admin APIs).

  Documented in: *Sybase Control Center for Sybase Unwired Platform*, see *SUP Help Desk*
- **Data change notification (DCN) authentication and authorization change –** the `HttpAuthDCNServlet` method now either uses the security configuration name provided with the user name to authenticate, or uses the following:

  - For Hybrid App DCN, the value of the requested "security" parameter authenticates and authorizes the user.
  - For regular DCN, the security configuration assigned to package authenticates and authorizes the user.

  Previously, the "admin" security profile was used when the user name did not include the security configuration name.

For example, if the user name includes the "admin" security configuration, and the administrator wants to push all packages and users through `HttpAuthDCNServlet`, the administrator can reuse the existing code without any changes by ensuring the user names include the `@admin` suffix. If no security configuration is specified for the user name, the package security configuration (or the "security" parameter in Hybrid App DCN) authenticates and authorizes the user.

Documented in: *Security*, see *Adding a PreconfiguredUserLoginModule for HTTP Basic Authentication*

Anonymous User Support

This release supports anonymous access, that is, one without an authentication or authorization requirement. The system administrator selects a predefined "Allow Anyone" role, which, once assigned to an application, enables access to the application without requiring or validating credentials. Application clients indicate when they are requesting anonymous login, which is specified via a flag in the connection API. Internally, the client runtime and server facilitate the rest of the interaction using SAP Passport.

Documented in:

- *Sybase Control Center for Sybase Unwired Platform*, see:
    - *Security Configurations*
    - *Anonymous Access Security Configuration*
    - *Setting Anonymous Access for Applications*
- *Security*, see *Role Mapping (roles-map.xml) Configuration File*

Architectural Modifications

Implement Unwired Server scale-out nodes in your landscape to add load balancing for REST API applications.

Horizontal Scalability for Open HTTP Channel

Scale-out nodes are specifically designed to allow the stateless request/response HTTP and synchronous message services to be horizontally scaled.

Documented in:

- *Landscape Design and Integration*, see:
    - *Cluster Installations*
    - *Designing the Landscape*
    - *Simple Load Balancing Cluster*
    - *Standard Microsoft Failover Cluster*
    - *Completing Installation Worksheets*
- *Installation Guide for Runtime*, see:

- *Installing Unwired Platform in a Simple Load Balancing Cluster*
- *(Optional) Installing Unwired Server Scale-Out Nodes*
- *System Administration*, see:
  - *Server Administration*
  - *Cluster Administration*

Supportability

This release provides additional integration of supportability tools, including SAP® Solution Manager, SAP Change & Transport System (CTS/CTS+), and HP LoadRunner.

SAP Solution Manager
Unwired Platform is now integrated with SAP Solution Manager to support end-to-end tracing and change analysis, as well as workload analysis.

- **SAP Solution Manager integration –** once you configure SAP Solution Manager to recognize Sybase Unwired Platform, use Sybase Control Center to configure the Solution Manager URL. Clients upload end-to-end trace data to Unwired Server, which uploads it to the Solution Manager to which the URL points. Solution Manager allows you to open Sybase Control Center where you can review the End to End trace records from the server. This helps you to get a full trace of a request from client to server.

  Documented in:

  - *System Administration*, see:
    - *SAP Interoperability*
    - *SAP SLD Server Overview*
  - *Sybase Control Center for Sybase Unwired Platform*, see *Configuring Unwired Server Performance Properties*
  - For more detailed information about configuring SAP Solution Manager to be used in conjunction with Sybase Unwired Platform, see *Maintenance of Sybase Unwired Platform in the System Landscape*.
- **Perform end-to-end trace analysis for Object API, OData, and Hybrid Apps –** application developers use end-to-end trace APIs provided with the corresponding SDK (Object API, OData, and Hybrid Apps) to build trace capability in the client application. The end user initiates tracing in the application when there is a problem, and performs the action that reproduces the problem. The trace data is collected and uploaded from the application to Unwired Server and then sent to Solution Manager. The administrator or help desk staff uses the Solution Manager user interface to analyze the uploaded trace data, which traces activity from device to enterprise information system (EIS), to isolate the root cause of performance and functional problems. For on-device application performance, developers use APIs to enable collection of the performance counters for supported key performance indicators (KPIs), and uses Sybase Control Center to view the collected performance data.

Documented in:

- *System Administration*, see:
  - *SAP Interoperability*
  - *SAP SLD Server Overview*
- *Sybase Control Center for Sybase Unwired Platform*, see *Configuring Unwired Server Performance Properties*
- *Developer Guide: OData SDK* (the iOS and Android sections), see *End to End Tracing*
- *Developer Guide: <Device Platform> Object API Applications* (Android and iOS) see *End to End Tracing*

- **Perform end-to-end workload analysis for Object API, OData, and Hybrid Apps –** the administrator configures the Introscope agent on the Unwired Server node. The agent sends KPIs, which can be reviewed using Solution Manager or the Introscope Enterprise Manager dashboard user interface.

  Documented in:

  - *System Administration*, see:
    - *SAP Interoperability*
    - *SAP SLD Server Overview*
    - *Workload Analysis with Wily Introscope Agent*
  - *Sybase Control Center for Sybase Unwired Platform*, see *Configuring Unwired Server Performance Properties*
  - *Developer Guide: OData SDK*, the iOS and Android sections, see *End to End Tracing*
  - *Developer Guide: <Device Platform> Object API Applications* (Android and iOS) see *End to End Tracing*
- **Perform end to end change analysis –** the administrator can record all changes in a solution (for example, operating system, database, Java parameters, transport requests, Support Packages). Solution Manager is the central entry point for root cause analysis, providing number of changes per system, change category, and day.

  Documented in:

  - For complete SAP Solution Manager documentation, see *SAP Solution Manager Setup*.
- **Perform end to end exception analysis –** Solution Manager provides exception trend analysis and a starting point for analysis of a specific exception using the Sybase Unwired Platform server log, domain log and Windows event log.

  Documented in:

  - For complete SAP Solution Manager documentation, see *SAP Solution Manager Setup*.
- **System monitoring and alerts –** Solution Manager features a unified alert inbox as a central access point to handle all types of alerts, which enables efficient alert handling based on consolidation of single alerts to alert groups. It integrates the most common alert

handling mechanisms, such as: status tracking, incidents, notifications and third-party integration. Administrators can drill down from alert type to alert groups, alert instances and single metrics and events, as well as view integration of analysis capabilities as problem context and monitoring applications. A status overview allows Administrators to access landscape information and problem context for technical systems with drill-down capability from status information to single metrics and events provided by End-to-End Monitoring and Alerting. Visualization of metrics and events, including thresholds and current rating / value are provided, including jump-in capability in the metric viewer with zoom functionality.

Documented in:
- For complete SAP Solution Manager documentation, see *SAP Solution Manager Setup*.

SAP Change & Transport System Integration

Unwired Platform is now integrated with Change & Transport System (CTS/CTS+) to enable transport of application, MBO package, and Hybrid App package definitions from development to test and production landscape environments. The Sybase Control Center provides export/import of applications, MBO packages, and Hybrid Apps to and from the corresponding archive.

Documented in: *System Administration*, see *CTS Overview*

HP LoadRunner Integration

Unwired Platform provides the hooks to integrate with your HP LoadRunner installation (separate license required), which enables the performance architect or developer to perform load and volume testing using standard tools that are available to SAP customers. A usage example for the tool includes load testing Unwired Server with clients using Hybrid Web Container, and clients using OData over an HTTP channel.

Documented in: *System Administration*, see *LoadRunner Extension for Sybase Unwired Platform*

Mobile Business Objects

Composite operation support has been added, with enhanced input and output mapping for mobile business objects (MBOs) in a composite relationship.

Composite Operations

The enhanced composite operation enables users to create a composite MBO tree in one create call from the root MBO. Users can map enterprise information system (EIS) input arguments of create, update, and delete operations at the root MBO, to the attributes of any/all child MBOs involved in a composite relationship graph. The entire composite graph is passed as a unit to Unwired Server, which in turn exercises a single EIS operation replay, thereby improving cache database performance.

Documented in:

- *Mobile Data Models: Using Mobile Business Objects*, see *Composite Operations Data Flow*
- *Sybase Unwired WorkSpace - Mobile Business Object Development*, see:
    - *Composite Operation Data Flow*
    - *Defining Input Mappings*
    - *Mobile Business Object Operation Properties*
    - *Merging Operation Input/Output into the Cache*
    - *Composite Operation Requirements and Limitations*

Object API Applications

New or changed features for native client Object API development include using Afaria certificates for device authentication and standalone Afaria libraries; writing to the database while synchronizing; synchronization parameter enhancements; consuming a native (push) notification; tracking KPIs; performing end-to-end trace from the device client; and supporting HTTPS. Customization resource bundles are now available for Object API applications; message text can be localized and customized; and BlackBerry signing is handled through a new API.

Certificates from Afaria for Authentication
One of the Afaria features is the ability to provide a device with a signed certificate that could be used as an authentication credential for Sybase Unwired Platform. With this release, developers can convert a certificate from Afaria into a form consumable by Sybase Unwired Platform.

Note: This feature does not support BlackBerry, or Windows and Windows Mobile.

Documented in: *Developer Guide: <Device Platform> Object API Applications* (Android and iOS only), see *Using Certificates from Afaria for Authentication*

Standalone Afaria Libraries
Standalone Afaria libraries are now used with Sybase Mobile SDK.

Documented in:

- Afaria documentation, available at *http://frontline.sybase.com/support/downloads.aspx* (registration required).
- (Android and iOS only) *Developer Guide: <Device Platform> Object API Applications*, see *Downloading the Latest Afaria Libraries*

Write to the Database While Synchronizing
A new connection profile property lets developers use multiple threads to write to the database while synchronizing.

Documented in: *Developer Guide: <Device Platform> Object API Applications*, see *Setting Up the Connection Profile*

Synchronization Parameter Enhancements

- **Easily read or update parameter settings –** you can more easily read or update synchronization parameter names or values for all active synchronization parameter sets.

  In earlier versions, synchronization parameter values were cumulative. Calling `[MBO]SynchronizationParameter.save()` twice produced two synchronization parameters values, with no way to query all current (cumulative) values, and update them (except using `delete all !` and `add again`). You can now use the methods in `[MBO]Subscription` class to perform create, update, or delete functions for all active synchronization parameter sets.

  Documented in: *Developer Guide: <Device Platform> Object API Applications*, see *Managing Synchronization Parameters*
- **No need for an initial sync –** you can now add synchronization parameters before performing an initial synchronization. Previously, you needed to sync, add the synchronization parameters, and then sync again.

  Documented in: *Developer Guide: <Device Platform> Object API Applications*, see *Nonblocking Synchronization*

Native Push Notification

You can consume a native push notification on the device using the native device operating system.

When a push notification is received, the `onPushNotification` method is invoked. You can add logic to handle the notification.

Documented in: *Developer Guide: <Device Platform> Object API Applications*, see: *ApplicationCallback API*

KPI Tracking

Object API clients for Android, BlackBerry, and iOS can access performance libraries through a new `PerformanceAgentService` interface, for tracing or collecting key performance indicators (KPIs).

Performance data is written to a log file on the device. The administrator can retrieve the performance log through Sybase Control Center.

Documented in: *Developer Guide: <Device Platform> Object API Applications* (Android, BlackBerry, and iOS), see *Tracking KPI*

End-to-End Tracing

Developers can now use the API to enable users to initiate end-to-end tracing from the device client side.

Documented in: *Developer Guide: <Device Platform> Object API Applications*, see *Debugging Runtime Errors and Performance Analysis*

HTTPS Support Added for Clients

HTTPS support is now available for messaging and replication clients that use messaging communications between the messaging client and server. Previously, HTTPS communication was available only through Relay Server. Some minimal client code change and server setup is required.

Documented in:

- *Developer Guide: <Device Platform> Object API Applications*, see:
  - *Setting Up Application Properties*
  - *NetworkProtocol*
  - *PortNumber*

Customization Resource Bundles

Customization resource bundles are now available for Object API applications (Android, BlackBerry, iOS, Windows, and Windows Mobile). This enables you to provision applications using metadata rather than recompiling code; gives you more configuration and versioning control over applications; and enables you to deliver packaged applications that are configurable and extensible.

Documented in: *Developer Guide: <Device Platform> Object API Applications*, see:

- *beginDownloadCustomizationBundle*
- *ApplicationCallback*

Error Handling

The Object API message text used in end-user application-visible error messages can be localized and customized.

Documented in: *Developer Guide: <Device Platform> Object API Applications*, in the *Client Object API Usage*, *Exceptions* section:

- *Base Exceptions*
- *Exception Message Service*
- *Service Registry*

Change to BlackBerry Signing

A new API [*setApplicationIdentifier (String value, signerId)*] has been introduced for signing BlackBerry applications. The API is based on the BlackBerry Password Based Code Signing Authority tool.

Documented in:

- *Developer Guide: BlackBerry Object API Applications*, see *Signing*

- *Developer Guide: Migrating to Sybase Mobile SDK*, see:
  - *BlackBerry* (in the *Migrate Object API Applications* section)
  - *Object API Changes in SDK Version 2.2 SP02*

Hybrid App and Hybrid Web Container

New or changed features for Hybrid App and Hybrid Web Container development include enhancements for Hybrid App Designer and Hybrid Web Container; capability to develop Hybrid Apps using third-party tools such as Sencha and Cordova (formerly PhoneGap); capability to develop Hybrid Apps with OData calls; end-to-end tracing; refactored development APIs, new JavaScript APIs, and enhancements for Hybrid Apps.

Hybrid App Designer Enhancements
The Designer simplifies building richer Hybrid Apps by extending the list of controls and using the latest updated framework in Designer-enabled scenarios. New Designer features and related topics:

- **Enhanced jQuery support –** includes the upgraded jQueryMobile version used to generate JavaScript; jQueryMobile-style properties for listview control; and default jQueryMobile look and feel for BlackBerry 5.

  Documented in:

  - *Sybase Unwired WorkSpace - Hybrid App Package Development*, see *Listview Properties*
  - *Developer Guide: Hybrid Apps*, see *Look and Feel Files*
- **New controls –** new controls provide access to Mobile Analytics Kit within the Designer; control is available over generated JavaScript files and load order; online request activation can be invoked in Hybrid Apps that mark a notification as being successfully activated; and improvements have been made to the user interface.

  Documented in:

  - *Sybase Unwired WorkSpace - Hybrid App Package Development*, see:
    - *Chart Control*
    - *Hybrid App Controls*
    - *Controlling Loading of JavaScript and CSS Files*
    - *Menu Item and Custom Action Properties*
    - *Button Properties*
- **Generate Hybrid Apps –** Hybrid App Designer now generates Hybrid Apps that use the new JavaScript APIs from Hybrid Web Container.

  Documented in: *Developer Guide: Hybrid Apps*, see:

  - *Generating Hybrid App Files and Deploying a Package*

- *Generated Hybrid App Files*
- *Generated HTML Files*

Hybrid Web Container Enhancements

Enhancements include client variable support through native or JavaScript API, support for hiding the list screen in iPad landscape mode, support for NetWeaver Gateway and proxy, prepackaged Hybrid Apps, and capability to automatically provision Hybrid Apps.

- **Client variable support** – define a client variable on the server side and retrieve it on the client side using either native API or JavaScript API.

  Documented in: *Developer Guide: Hybrid Apps*, see *Manifest.xml* and *Client Variables*

- **iPad list screen** – hide the Hybrid App list screen in landscape mode on the iPad.

  Documented in: *Developer Guide: Hybrid Apps*, see *Hiding the Listview on iPad*

- **Support for NetWeaver Gateway and proxy** – developers can write HTML5 applications packaged to run in Hybrid Web Container, but can communicate directly to NetWeaver Gateway through the proxy server using the new REST API. Versioning and life-cycle management of Hybrid App packages is still supported. Implications for related functionality include:

  - Native notifications (sometimes called push) are supported through NetWeaver Gateway subscriptions. Existing data change notification (DCN)-based push still requires MBOs.
  - Encrypted Sybase Unwired Platform Storage and Certification repository is still accessible.
  - Apache Cordova and Device API is still accessible.

  Documented in:

  - *Developer Guide: Hybrid Apps*, see:
    - *Develop OData-based Hybrid Apps*
    - *Supported JavaScript PhoneGap APIs*
  - *Developer Guide: REST API Applications*

- **Prepackaged Hybrid App in Hybrid Web Containers** – developers can now create a Hybrid Web Container compiled with the initial version of a Hybrid App. When the Hybrid Web Container launches, the initial version of the Hybrid App is available for use. Previously, the Hybrid Web Container shipped as an empty container, and the Hybrid App had to be downloaded from Unwired Server after the client application initially connected to Unwired Server.

  Documented in:

  - *Developer Guide: Hybrid Apps*, see: *Prepackaged Hybrid Apps*
  - *Sybase Control Center for Sybase Unwired Platform*, see:
    - *Assigning and Unassigning Hybrid Apps to Application Connections*

- *Assigning and Unassigning Hybrid Apps*
- **Automatic Hybrid App provisioning –** Hybrid Apps can now be deployed to a user upon successful on-boarding, without any administrative action. The administrator can assign one or more Hybrid Apps to an application connection template used for automatic on-boarding. Those assigned Hybrid Apps are provisioned into the user's Hybrid Web Container once the user's credentials have been successfully authenticated and authorized during on-boarding.

  Documented in: *Sybase Control Center for Sybase Unwired Platform*, see:

- *Application Connection Templates*
- *Assigning and Unassigning Hybrid Apps to Application Connection Templates*

Develop Hybrid Apps using Third-Party Tools

You can develop Hybrid Apps using a third-party development tool, such as Sencha, Appcelerator, or PhoneGap, without Sybase Unwired WorkSpace. Develop Hybrid Apps in the native development platform of choice (Android, BlackBerry, iOS, or Windows Mobile), and then use the new Hybrid App packaging tool to create the package apart from the Designer. This enables developers to develop applications in the tool with which they are experienced.

Documented in *Developer Guide: Hybrid Apps*:

- *Develop Hybrid Apps Using Third-Party Web Frameworks*
- *Packaging Hybrid Apps Using the Packaging Tool*

Cordova APIs Available for All Platforms

Sybase Unwired Platform comes with Cordova 2.0 (previously, PhoneGap 1.4.1 was embedded with Sybase Unwired Platform Android/iOS Hybrid Web Containers) libraries linked in and ready to use. These libraries handle common tasks supported by most devices. Integrating PhoneGap plug-ins with Hybrid Web Containers allows you to extend the set of APIs available within a Hybrid App. Supported platforms now include BlackBerry and Windows Mobile, as well as Android and iOS.

Documented in: *Developer Guide: Hybrid Apps*, see *Adding Native Device Functionality to the Hybrid Web Container*

Develop Hybrid Apps with OData Calls

You can develop a Hybrid App using a third-party development tool, such as jQuery Mobile, and add OData calls to Proxy and NetWeaver via the REST API. Use the Hybrid App packaging tool and the prepackaged Hybrid App feature to package and provision the Hybrid App to the client side.

Documented in: *Developer Guide: Hybrid Apps*, see *Develop an OData-Based Hybrid App*, and generated developer documentation

SAP Passport Handling

The Hybrid Web Container includes integration of `SDMSupportability` libraries for SAP Passport handling. This allows the developer to configure and use the end-to-end tracing functionality.

Documented in:

* *Developer Guide: Hybrid Apps*, see *SAP Passport Handling*
* *System Administration*, see *Using End-to-End Tracing to Troubleshoot and Diagnose Problems*

New JavaScript Generation for MBO API

Generate JavaScript API for mobile business objects, without the user interface component. Developers can use the API in their custom code, without generating UI code.

Documented in:

* *Developer Guide: Hybrid Apps*, see *Generating JavaScript MBO Access API*
* *Sybase Unwired WorkSpace - Hybrid App Package Development*, see *Generating Files for an Externally Developed Hybrid App*

Hybrid App Packaging Tool

The Hybrid App packaging tool enables you to package a Hybrid App developed in a third-party development environment. This tool is available in the *SUP_HOME* installation directory, and is used to package existing files.

Documented in *Developer Guide: Hybrid Apps*:

* *Packaging Hybrid Apps Using the Packaging Tool*

Hybrid Web Container Template for BlackBerry and Windows Mobile

The Hybrid Web Container project is accompanied by libraries and the source code necessary for you to build the Hybrid Web Container. Source code is now available for BlackBerry and Windows Mobile platforms.

Documented in: *Developer Guide: Hybrid Apps*, see:

* *BlackBerry Hybrid Web Container Customization*
* *Windows Mobile Hybrid Web Container Customization*

New JavaScript APIs

New JavaScript APIs enable you to index custom icons, and make online request calls in asynchronous or cache policy modes:

* Custom icons for Hybrid Apps – `hwc.CustomIcon` indexes custom icons. Defined in `hwc-api.js`.

- Online request cache enhancements – `doOnlineRequest` allows you to make online request calls in asynchronous mode (`asynchronous` method) instead of waiting for loading to complete. When cache is enabled (`cachePolicy` method), you can define whether to get the cache content or to get real-time data if server connectivity is available. When cache is enabled, you can define the cache content expiration, or specify no expiration.
- Hybrid Web Container settings – JavaScript APIs that allow a developer to mimic the native Settings screen in the Hybrid Web Container.

Documented in: *Developer Guide: Hybrid Apps*, see:

- *Develop Hybrid Apps Using Third-party Web Frameworks*
- *Hybrid Web Container and Hybrid App JavaScript APIs* (includes a link to the generated API documents)

OData SDK

New or changed features for OData SDK include refactored OData SDK APIs, DataVault classes for iOS, Android, and BlackBerry, standalone Afaria libraries, native notification, streaming support for large objects, and end-to-end tracing for iOS and Android.

OData for SAP products provide SAP extensions to the OData protocol that enable users to build user interfaces for accessing the data published via OData. The interfaces require human-readable, language-dependent labels for all properties, and free-text search within and across collections of similar entities (OpenSearch).

OData services include:

- Application registration
- Authentication and single sign-on (SSO)
- Push notification
- Configuration

The OData SDK API supports online request-response style applications. This development archetype implements messaging-based synchronization and HTTP channel, and capitalizes on security enhancements and architectural modifications to provide fast and secure service-enabled applications. You can configure push notification properties for an application through Sybase Control Center. You can develop applications so they can be monitored through Sybase Control Center.

New OData SDK APIs
The OData SDM Parser SDK has been enhanced to improve performance. Two new APIs are added to the SDM Parser for Android and BlackBerry for enabling the performance data points for parser. One new API is added in Android to support complex datatype for POST request method.

- **Support for complex types (Android) –** developers can use new API for Android parser to support complex types.

- **Enable performance logs (Android) –** developers can use new API for Android parser to enable performance logs.

- **Enable performance logs (BlackBerry) –** developers can use new API for BlackBerry parser to enable performance logs.

Documented in:

- *Developer Guide: OData SDK*, see *OData SDK Components and APIs > SDMParser > SDMParser Public APIs* in the Android section.
- *Developer Guide: OData SDK*, see *OData SDK Components and APIs > SDMParser* in the BlackBerry section.

Refactored OData SDK APIs

The OData SDK API has been refactored significantly in Unwired Platform 2.2. Applications developed with earlier versions of the OData SDK API continue to work after upgrade. Before using Sybase Mobile SDK 2.2, OData applications built on 2.1 ESD # 3 or earlier releases should be explicitly migrated to 2.2. The OData SDK APIs in Unwired Platform release 2.2 are refined and enhanced for better usage. When you add the Unwired Platform 2.2 OData SDK into your existing application, the application will encounter compilation errors, that should be resolved. For more information about the enhanced APIs and migration procedures, see *Developer Guide: Migrating to Sybase Mobile SDK*, the *Migrate OData SDK Applications* section.

DataVault

A DataVault class is available for iOS, Android, and BlackBerry (in addition to the current Private DataVault class for Android). Additional password policy control has been added to the DataVault, making it easier to populate the password policy and enforce enterprise password policies in device applications. The new DataVault API enables you to work with password policy settings, check for default passwords, change passwords, delete data from the data vault, and iterate through data.

Documented in: *Developer Guide: OData SDK*, see *DataVault* in the iOS, Android, and BlackBerry sections.

Standalone Afaria Libraries

Standalone Afaria libraries are now used with Sybase Mobile SDK.

Documented in Afaria documentation, available at *http://frontline.sybase.com/support/downloads.aspx* (registration required).

Native Notification

You can configure native notification (sometimes called push) properties for an application through Sybase Control Center. If enabled, any newly created application should be

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immediately available via messaging-based synchronization or HTTP channel without further configuration.

Documented in: *Developer Guide: OData SDK*, see:

- *Enabling Apple Push Notifications* (iOS)
- *Apple Push Notification Service Configuration* (iOS)
- *Registering Listeners for Push Notifications* (Android)
- *Registering Listeners for Push Notifications* (BlackBerry)

Streaming Support for Large Data

Streaming handles large data sent device-to-server and vice-versa. Streaming of response data obtained from the server on a client is the ability to receive data of unlimited size via a stream. The stream is processed as the data arrives and needs not be stored in device memory at any point in time. Streaming can take place in both synchronous and asynchronous invocations of the client; it has no impact on the server.

A large attribute class enables you to send large objects and handle them efficiently on the client. Clients can also access or modify a large attribute without reading the entire attribute into memory. In addition, clients can execute queries without having large attribute values automatically filled in the returned MBO lists or result sets.

Applications developed in earlier versions of Online Data Proxy (ODP) had limitations on the size of the data to be uploaded from device to server. Also, only a limited amount of data could be downloaded on the device. This limitation has been addressed by the availability of device-to-server and server-to-device streaming functionality on ODP. Now applications can provide the path of the file containing the huge data, and data from this file is streamed to the server in chunks.

Documented in: *Developer Guide: OData SDK*:

- *SDMConnectivity* (Android)
- *SDMConnectivity* (BlackBerry)
- *Enabling Data Streaming* (iOS)

End to End Trace

End-to-end trace functionality is now supported for Android and iOS.

Documented in:

- *Developer Guide: OData SDK*, see *End to End Tracing* (Android and iOS sections)
- *System Administration*, see *Using End to End Tracing to Troubleshoot and Diagnose Problems*

Administration

New or changed administration features enable you to use Sybase Control Center to configure cluster-level server settings, automate Hybrid App and application distribution by roles, set

the BlackBerry messaging portioning response limit, manage HTTP log settings, configure application-specific native notifications, and modify Hybrid App client variables. Security and Notification API SDKs are now available, and the Management API has been enhanced.

Configure Cluster-Wide Shared Server Settings from Sybase Control Center
Shared server configuration settings are now configured at the cluster level, rather than the server level. Use the new "Configuration Node" in Sybase Control Center to configure the shared server configuration settings for the cluster.

Documented in: *Sybase Control Center for Sybase Unwired Platform*, see *Cluster Properties*

Configure Hybrid App and Application Distribution from Sybase Control Center
Hybrid Apps can be automatically assigned to the application connections of users based on membership in their groups, which are exposed in LDAP. Similarly, access to an application can be authorized using these groups. Application connection template settings are used for this purpose. Previously, the system administrator had to manually assign Hybrid Apps to user specific application connections.

Documented in:

- *Security*, see:
    - *Mapping Roles at the Global or Package Level*
    - *Dynamically Mapping Physical Roles to Logical Roles*
    - *LDAP Role Computation*
    - *LDAP Nested Groups and Roles in LDAP*
- *Sybase Control Center for Sybase Unwired Platform*, see:
    - *Mapping Roles for a Domain*
    - *Creating a Security Configuration*
    - *Creating Logical Roles for a Security Configuration*
    - *Application Connection Templates*
    - *Assigning and Unassigning a Hybrid App to Application Connection Templates*

Configure Application-Specific Native Notification from Sybase Control Center
Native notification (sometimes called push notification) is now configured at the application level for Android, BlackBerry, and iOS from Sybase Control Center via the application's properties dialog. Previously configuration was done at the server level.

Documented in:

- *Sybase Control Center for Sybase Unwired Platform*, see *Configuring Native Notifications*
- *Developer Guide: Unwired Server Runtime*, see *Managing Application Push Configuration*

Configure BlackBerry Messaging Response Portioning Limit from Sybase Control Center
Implement performance improvements for BlackBerry messaging by configuring the BES response portioning limit. You can set the response portioning limit from Sybase Control Center.

Documented in:

* *Developer Guide: Unwired Server Runtime*, see:
    * *Retrieve BES Response Portioning Limit*
    * *Update BES Response Portioning Limit*
* *Sybase Control Center for Sybase Unwired Platform*, see *Configuring Messaging Properties*

Manage HTTP Log Settings from Sybase Control Center
Use Sybase Control Center to set HTTP log settings for the Unwired Server log. By default HTTP logging is turned off because it can cause a performance impact, and possibly log sensitive data.

Documented in: *Sybase Control Center for Sybase Unwired Platform*, see *Configuring Unwired Server Log Settings*

Modify Client Variables from Sybase Control Center
You can now modify Hybrid App client variables from Sybase Control Center. Previously you could only use the Management API to retrieve and update client variables.

Documented in:

* *Sybase Control Center for Sybase Unwired Platform*, see *Configuring Client Variables for Hybrid Apps*
* *Developer Guide: Unwired Server Runtime*, see:
    * *Retrieval of Hybrid App Client Variables*
    * *Update of Hybrid App Client Variables*

Server API Changes

* **Security API** – enables you to integrate Sybase Unwired Platform with your existing security landscape. Use the Security API to develop a custom authentication or authorization provider.

    Documented in: *Developer Guide: Unwired Server Runtime*, see:

    * *Security API*
    * *Quick Start Task Flow*
* **Notification API** – enables you to make requests from enterprise information systems for Sybase Unwired Platform to send native notifications to devices.

Documented in: *Developer Guide: Unwired Server Runtime*, see *Notification API*
- **Management API –** enhancements have been made to the API.

Documented in: *Developer Guide: Unwired Server Runtime*, see:

- *Management API Changes in Version 2.2*
- *Management API*
- *Backward Compatibility*

Documentation Changes

Documentation changes include new documents, changed titles, and a shortened installation path variable.

Note: Check the Product Documentation Web site regularly for updates: *http:// sybooks.sybase.com/sybooks/sybooks.xhtml? id=1289&c=firsttab&a=0&p=categories*, then navigate to the most current version.

In *Fundamentals*, see *Documentation Roadmap* to learn more about product documentation for developers and administrators.

New for Installation Planning and Migration
Migration and installation planning information has been moved out of *Installation Guide for Runtime* and *System Administration* into:

- *Landscape Design and Integration* – for system administrators who are defining IT process requirements needed to implement and alter an enterprise mobility management system.
- *Developer Guide: Migrating to Sybase Mobile SDK* – for developers who are migrating mobile business objects, projects, and device applications to take advantage of new features in the latest software version.

New for Mobile Application Life Cycle
Mobile application life cycle information has been moved out of *System Administration* into:

- *Mobile Application Life Cycle* – for mobile application administrators who are responsible for operation of the mobile applications running inside the system, and in the field.

Note: *System Administration* has been reorganized.

New for Online Data Proxy
Online Data Proxy is now integrated in the Unwired Platform installation, so a separate *Sybase Control Center for Online Data Proxy* is no longer published. All Online Data Proxy-related information is integrated in *Sybase Control Center for Sybase Unwired Platform*.

Additionally, *Quick Start: Online Data Proxy* is no longer published. All Online Data Proxy-related information is integrated in *Fundamentals*, *System Administration*, *Security*, and *Sybase Control Center for Sybase Unwired Platform*.

New for Development

A document has been added to support the new development option added to Unwired Platform:

*   *Developer Guide: REST API Applications*

Document Name Changes

Some documents have been renamed to better reflect the content:

*   *Developer Guide: Mobile Workflow Packages* changed to *Developer Guide: Hybrid Apps*
*   *Developer Guide: Unwired Server Management API* changed to *Developer Guide: Unwired Server Runtime*

New Glossary

The glossary is now a separate document; glossaries are no longer included in individual documents. Terms from multiple glossaries are now merged into the single glossary.

Installation Path Variable

The new, shorter installation path variable continues to be implemented:

*   *SUP_HOME* – replaces `<UnwiredPlatform_InstallDir>\UnwiredPlatform\`
*   *SCC_HOME* – replaces `<UnwiredPlatform_InstallDir>\SCC-XX\`

Documentation Changes