User Interface Watermark

Workspace ONE® supports overlaying a watermark text on the user interface of a mobile application. The watermark is generated at run time and can include identifying details of the application end user. The watermark can be used to trace the source of a data leak, for example. The aim of the watermark is to discourage end users from copying enterprise data by photographing or digitally capturing the device screen.

User interface watermarking is configured in the Workspace ONE Unified Endpoint Manager (UEM) console. The watermark is overlaid at run time by the Workspace ONE mobile Software Development Kit (SDK), according to configuration in the mobile application.

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Description

Workspace ONE watermarking works as follows.

- In the UEM, in the security policies, Data Loss Prevention (DLP) is activated. In the DLP options, watermarking is activated and configured.

  The watermark configuration specifies the template for the overlay text, for example including the end user email address and name.

  See Console Configuration.

- The watermark configuration is retrieved by the SDK instance in a mobile application, at enrollment time or subsequently.

- Support for watermarking is configured in the mobile app, at build time. Configuration will specify which parts of the app user interface are to be watermarked.

  Specification can be at the Activity level, or at the layout level for example.

  Configuration requires code changes. See Application Configuration for details.

- The SDK overlays the watermark text on the app user interface, according to the console and app configurations.

  For an example, see the Appendix: Watermarked User Interface Screen Capture.

Integration

To integrate the feature into your application, follow the instructions below.

Compatibility

Before you begin integration of this feature, ensure you have access to compatible versions of software. The following table shows the minimum required versions.

Software	Required
Workspace ONE SDK for Android	20.10
Workspace ONE management console	9.7*

Table 1: Software Compatibility Version Numbers

Version 9.7* is the earliest supported UEM at time of writing.

Console Configuration

This feature can be configured in the Workspace ONE management console. The following instructions are intended for application developers or other users wishing to try out the feature quickly. Full documentation can be found in the online help.

1. Log in to the management console.

    The dashboard will be displayed.

2. Select an organization group.

    By default, the Global group is selected.

3. Navigate to: Groups & Settings, All Settings, Apps, Settings and Policies, Security Policies.

    This opens the Security Policies configuration screen, on which a number of settings can be switched on and off, and configured.

4. For the Data Loss Prevention setting, select Enabled.

    When Enabled is selected, further controls will be displayed.

5. For the Enable Watermark setting, select Yes.

    When Yes is selected, the Overlay Text field will be displayed.

6. Specify the watermark in the Overlay Text field.

    You can enter text, and template variables such as the following.

Variable	Description
{FirstName}	First name of the end user
{LastName}	Last name of the end user
{EmailAddress}	Email address of the end user

Table 2: Some Watermark Template Variables

    Click the plus box next to the Overlay Text field to see a list of template variables.

7. Select Save to commit your changes to the configuration.

This concludes console configuration.

See also the Appendix: Console User Interface Screen Capture.

Application Configuration

Configure which parts of the application user interface will be overlaid with a watermark.

By default, none of the application user interface will be overlaid with a watermark. You can specify which parts are to be overlaid using the following mechanisms.

Extension Mechanism

The extension mechanism is the typical way to integrate with Workspace ONE Data Loss Prevention (DLP) in general.

(If your app isn't yet integrated with Workspace ONE DLP then the extension mechanism could be the quickest way. To implement, change the Activity classes in the app to extend SDKBaseActivity, i.e. to be SDKBaseActivity subclasses.)

An Activity that is a subclass of SDKBaseActivity can be configured to show the watermark by overriding the showWatermark() method to return true.

Kotlin code for watermark specification by extension could be as follows.

```kotlin
open class BaseActivity: SDKBaseActivity() {

    // ... Other class code here.

    // Following override will show the watermark, if configured in the management console.
    override fun showWatermark() : Boolean {
        return true;
    }
}
```

Delegation Mechanism

Delegation is an alternative mechanism to extension, above.

An SDKBaseActivityDelegate subclass can be configured to show the watermark by adding to its onResume() method a call to the addAndUpdateWatermark() method. The watermark will then be shown in the corresponding Activity instance.

Kotlin code for watermark specification by delegation could be as follows.

```kotlin
class ActivityDelegate(activity: Activity): SDKBaseActivityDelegate(activity) {

    // ... Other class code here.

    override public onResume() {
        sdkBaseActivityDelegate.onResume();

        // Following line will show the watermark, if configured in the management console.
        sdkBaseActivityDelegate.addAndUpdateWatermark();
    }
}
```

View Insertion Mechanism

An SDK watermark can be inserted into the Android view hierarchy of the app. This mechanism gives the app developer the most control, and will involve writing the most code, compared to the extension and delegation mechanisms, above.

The SDK has a custom Android View class that overlays a watermark. Instances of this class can be inserted into the app view hierarchy, in an XML layout resource, or programmatically.

In XML, a watermark view could be inserted with code like the following.

```
<com.airwatch.login.ui.AWWatermarkView
    android:id="@+id/watermark_text"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:focusable="false"
    android:focusableInTouchMode="false"
    app:color="@color/actionbar_shadow_end_color"
    app:textAlpha="0.5"
    app:textSize="@integer/awsdk_feedback_customer_max_length"
    app:watermarkText="Overlay Text" />
```

Notes on custom attributes:

- `textAlpha`

  The textAlpha attribute sets the opacity of the watermark text, with 1.0 specifying completely opaque.

- `watermarkText`

  The watermarkText attribute contains the text to overlay and should be set at run time. The text for the current end user can be read from the SDK configuration. The following Kotlin code shows how to access the overlay text.

```
val dlpSettings =
    SDKContextManager.getSDKContext().sdkConfiguration.getSettings(
        SDKConfigurationKeys.TYPE_DATA_LOSS_PREVENTION)

val overlayText = dlpSettings.getString(SDKConfigurationKeys.OVERLAY_TEXT, "")
```

  In the console, the overlay text will have been specified as a template that can include a number of variables. In the String value returned by the SDK, any variables will have been resolved.

Next Steps

Test your changes by installing your app on a device and enrolling with a UEM that has DLP and watermarking configured.

This completes integration of the Workspace ONE User Interface Watermark feature.

Appendix: Console User Interface Screen Capture

The following screen captures shows this feature's configuration in the management console. For step-by-step instructions, see Console Configuration.
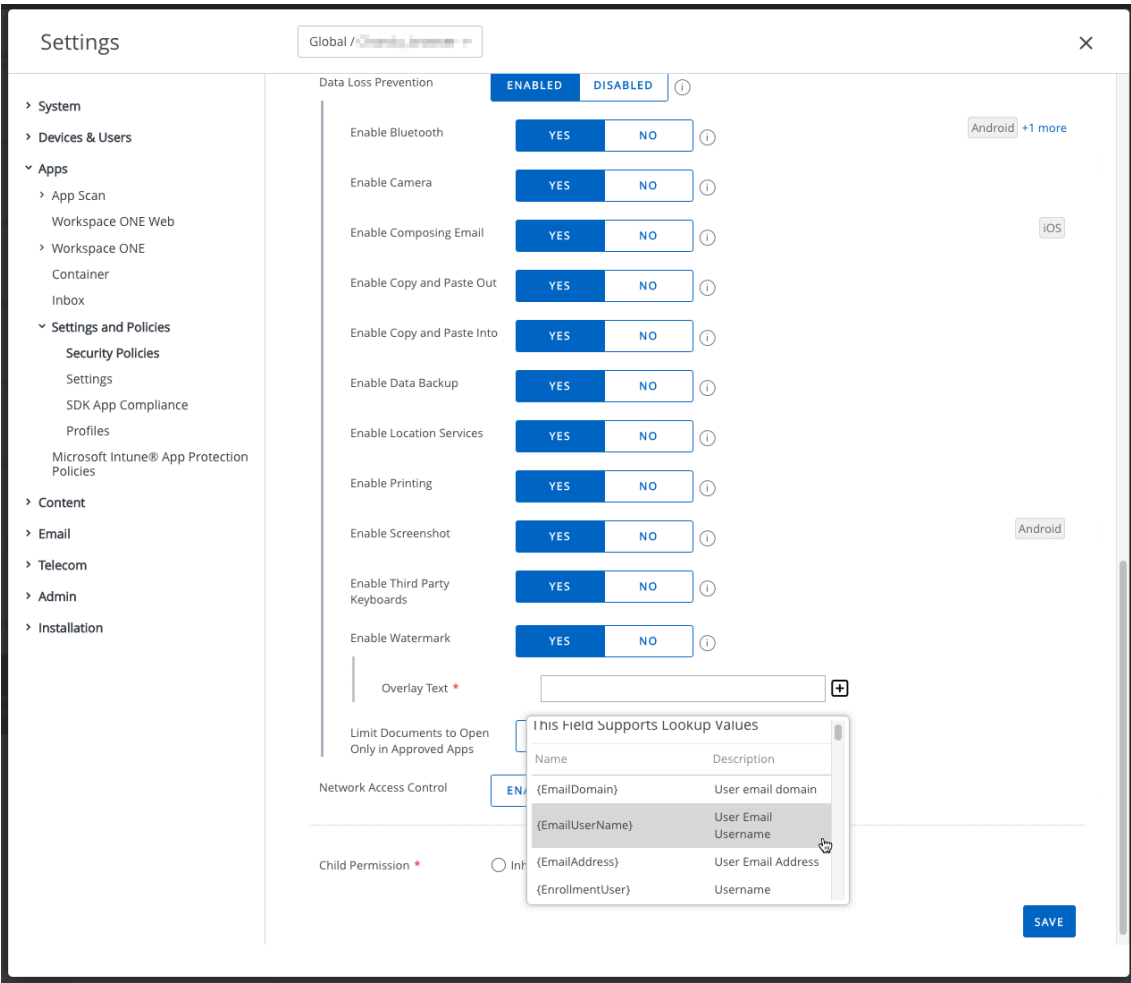
Screen capture 1: Console User Interface Watermarking Configuration

Appendix: Watermarked User Interface Screen Capture

The following screen capture shows a sample application with a Workspace ONE watermark overlaid on the user interface.

Screen capture 2: Watermarked User Interface

Document Information

Revision History

The following table shows the revision history of this document.

Date	Revision
04 Nov 2020	Initial Publication.
18 Feb 2025	Brand Revision.
04 Aug 2025	Updated the revision history format.

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