How to Get Started with Digital Employee Experience Management

Top use cases
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Digital employee experience management enables IT to measure, analyze and remediate digital employee experience. It gives IT admins end-to-end visibility into app performance and adoption, desktop and mobile device health, OS stability and network performance with actionable insights to improve the employee experience, regardless of location, device or app.

Executive summary

With Digital Employee Experience Management, powered by VMware Workspace ONE Intelligence, you can continuously monitor and measure the overall user experience with a holistic user experience score, contextual dashboards and reports. With this information and analysis, you can proactively identify and resolve issues, as well as uncover and remediate issues that might otherwise remain hidden. Additionally, you can track app and OS adoption and optimize licensing, maintenance, and other IT processes, such as device refresh.

You can use these key insights to:

While the advantages of digital employee experience management are clear, where to start might seem less so. This paper shows you how to get started by breaking key use cases into two phases—low effort and high effort—to help you prioritize tasks and gain value as you go along.

<table>
<thead>
<tr>
<th>Low Effort: Do It Now</th>
<th>High Effort: Do It Next</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address widespread issues with big impact on your environment that are relatively easy to fix</td>
<td>Tackle issues that require more time for analysis and troubleshooting</td>
</tr>
<tr>
<td>• Monitor usage</td>
<td>Invest more time in root cause analysis:</td>
</tr>
<tr>
<td>• Get visibility across your entire organization</td>
<td>• Create sensor scripts to get additional data</td>
</tr>
<tr>
<td>• Tackle widespread issues</td>
<td>• Dive deeper into performance issues</td>
</tr>
<tr>
<td></td>
<td>• Address device health</td>
</tr>
</tbody>
</table>

Intended audience

You should have an initial understanding of the VMware Workspace ONE Intelligence platform and be able to create basic dashboards, reports and workflows. If you need more details on these features, see the Creating Dashboards and Reports in Intelligence tutorial.
Phase 1: Low-effort use cases

These low-effort tasks give you visibility across your entire organization and help tackle widespread issues. Each use case takes only a few minutes to set up.

- Pinpoint poorly performing apps
- Identify devices with low RAM
- Locate devices with low storage capacity
- Find rogue applications running in your environment
- Monitor adoption, engagement and performance of critical apps
- Plan app support and migration
- Monitor OS updates

1. Pinpoint poorly performing apps

A large environment typically has over 175 applications. On top of that, you could have many unsanctioned or shadow IT applications. To keep your employees productive and deliver an optimal experience, your critical apps must perform well. But sometimes, due to the volume of apps, you cannot monitor each app’s health. Digital Employee Experience Management resolves this issue for you.

The Digital Employee Experience Management dashboard provides at-a-glance details of apps that are performing poorly. The apps are ranked in order of impact so you can prioritize your root cause analysis (RCA) efforts based on the impact level. For example, this dashboard shows that five desktop apps have a poor experience score.

To get a list of the apps and their impact, click View.
From here, you can drill down into the app performance dashboard to identify the root cause of the problem.

2. Identify devices with low RAM

Poorly performing devices is one of the most common issues that affect digital employee experience. These devices are often slow to respond and need frequent restarts. You can sidestep these performance issues by using Digital Employee Experience Management to track device resources, such as RAM and battery life, and identify when performance is below a certain range. You can then proactively contact users and encourage them to upgrade their devices or procure newer versions.

To identify devices with low RAM, you can create a widget to quickly visualize data. Using the Add Widget wizard, select the Employee Experience category and the Asset Information sub-category.
Use these settings to create the dashboard. From there, you can dig deeper to find the issue by device make and model.

3. Locate devices with low storage capacity

In addition to impacting employee experience, a device’s low storage capacity can also cause security concerns. If a critical update is required and a device does not have enough storage capacity to deploy it, the update fails, and the device is no longer compliant.

With Digital Employee Experience Management, you can create a widget to find devices with low storage capacity. Using the Add Widget wizard, select the Employee Experience category and the Device Performance sub-category. Then configure the recommended widget settings as shown in the screenshot.
You can also set up automated notifications to users to recommend moving unnecessary files to cloud storage. On the Automations tab, create a workflow. Out-of-the-box integrations include email and Slack. And if it is time to upgrade or replace the device, you can set up a workflow to open a ServiceNow ticket for a new device and notify the user.

4. Find rogue applications running in your environment

You can get performance, stability, adoption and engagement data for all desktop apps using the out-of-the-box dashboards. You can also quickly identify sanctioned and unsanctioned apps running in your environment. You can drill down into any app to get more information about adoption and engagement.

To get started, use the global search at the top bar to find the application that you are looking for.

From there, you can view data about the selected app, such as daily and monthly active users, installs and loads.

You can also create a custom dashboard for selected applications to identify who is using them. You can then notify users that they need to remove the application or take other actions as needed.
5. Monitor adoption, engagement and performance of critical apps

App performance is critical to employee productivity, engagement, and the overall digital experience. You can monitor app performance, such as crashes and hangs, and the overall user experience with the app. In the following dashboard, you can see app experience over time and that the score has gone down over the last day.

You can then look at the Error tab to get more details about what is going on. The following screenshot shows the crash and hang trends over time along with the current crash rate. Crashes are further grouped by OS version, device models, app version and executable to show anomalies.
To get better insights into what sort of crashes are occurring most often and impacting employees, scroll down to the table, which groups similar crashes together.

### App Crashes

<table>
<thead>
<tr>
<th>App Name</th>
<th>Occurrence</th>
<th>Users Affected</th>
<th>First Occurred</th>
<th>Last Occurred</th>
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<tbody>
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<td>Feb 1, 2022 1:02 PM</td>
<td>Feb 4, 2022 1:02 PM</td>
</tr>
</tbody>
</table>

On the Overview tab, you can track adoption and engagement KPIs, such as daily active users (DAU), monthly active users (MAU) and the ratio between them, to measure engagement.
You can also monitor application usage and duration.

6. Plan app support and migration

The Apps dashboard provides you with an overall application experience score. You can also drill into an experience score to see how it applies to each app version. Use this dashboard to strategize version support and migration. To minimize disruption, use the Application Usage dashboard (shown in the previous section) to choose the best migration time. Then, set up automation to upgrade the application to the latest version.
7. Monitor OS updates

Every IT organization has to support a myriad of OS platforms running on a wide range of device models from desktop to mobile. Each vendor releases OS updates on a different schedule, which adds to the complexity. Workspace ONE Intelligence helps you manage that complexity. It provides trends for OS update adoption for Windows, macOS, iOS, tvOS, Android and Chrome. Visibility into OS adoption helps you prioritize OS support, run upgrade campaigns, enforce upgrades for laggard users and more.

OS adoption dashboards are provided out of the box and you can find them in the OS Updates section under Intelligence Dashboards. Here is an example of the Windows OS Update Trends dashboard.

You can monitor how OS updates are impacting employee experience by correlating risk scores and when the OS updates occurred.
Phase 2: High-effort use cases

These tasks dive deeper with more advanced dashboards to find the root cause of an issue. You can set up automated remediation or reach out to an OEM or third-party developer for remediation.

- Monitor OS crashes
- Identify unexpected shutdowns and hard resets
- Address long boot and shutdown durations
- Monitor app adoption trends
- Augment data using Workspace ONE sensors

1. Monitor OS crashes

Because OS crashes are one of the main symptoms of poor device health and negatively impact employee experience, they are included as one of the default parameters that factor into the device health score. The device health score is based on predefined thresholds, but you can change the threshold values based on your business needs and organizational goals.

To start, look at device health on the main dashboard. In the following example, the dashboard identifies 815 devices with a poor score. To get more information, click View.

The page lists the top device health issues in order of impact. You can see that OS crashes impact 2.39 percent of total devices in this organization. For a more detailed view, click OS Crashes.
This view displays the total number of crashes that occurred in the last 28 days. You can change the period using a global filter. The crashes are also grouped by OS version and device model so you can quickly identify anomalies and see if the crashes are occurring with specific OS versions or devices.

Digital Employee Experience Management buckets these crashes into error codes, crash modules and process. The following image shows this grouping along with how many times specific crashes occurred and how users were impacted. Click on an error name to drill further into a specific crash. For example, click **win32kbase**.
You can now view the details of the win32kbase crash over the past 28 days.
2. Identify unexpected shutdowns and hard resets

Unexpected shutdowns and hard resets are not only annoying and negatively impact employee experience, but they also affect productivity and risk losing unsaved data. You can configure a widget to get data from unexpected shutdown events logged by Windows, including all OS crashes.

The following chart shows unexpected shutdown events over the past 24 hours. Digital Employee Experience Management captures data about bugchecks, cold reboots, crashes and other serious issues. The Bugcheck label represents all OS crashes.

To create this view, add a custom widget.
According to the Microsoft Bugcheck reference site, you need two metrics to determine the root cause of an OS crash and correct the issue.

- Bugcheck code
- Crash parameter list

Although Digital Employee Experience Management collects this data automatically, it does not display in your widget by default. To view this data, you need to add the crash parameter list in the widget settings. Above the table, click Edit Columns and look for the crash data shown in the following screenshot.

Select the columns relevant for you to continue the investigation. For example, we added the Crash Parameters list.
3. **Address long boot and shutdown durations**

Because long boot and shutdown durations negatively impact productivity and overall user experience, they are two of the parameters that factor into the device health score. You can change the default threshold values based on your business needs and organization goals.

To start, look at device health on the main dashboard. This example identifies 733 devices with a poor score. To get more information, click **View**.

![Dashboard](image)

The page lists the top device health issues in order of impact. Shutdown Time is the second-most common issue affecting overall user experience. Click **Shutdown Time** to get a detailed view of the issue.

![Device Health](image)
Boot and shutdown duration values are calculated based on these sub-process metrics, which you can also monitor to help identify the root cause of an issue:

- PNP Load Duration
- Logon Load Duration
- Logon Wait Duration
- System Session Duration
- Main Path Load Duration
- Boot Driver Load Duration

You can also get data from boot degradation and shutdown degradation events logged by Windows. The following dashboard shows boot degradation over the past 14 days and the applications involved.
To create this boot degradation dashboard, add a custom widget. To create a dashboard for shutdown degradation, enter **Shutdown Degradation** instead of Boot Degradation as the event name.

<table>
<thead>
<tr>
<th>Category: Employee Experience Apps</th>
</tr>
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<tbody>
<tr>
<td><strong>Boot Degradation</strong></td>
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<td>Add description (optional)</td>
</tr>
<tr>
<td><strong>Data Visualization</strong></td>
</tr>
</tbody>
</table>

**Chart Type**

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<th>Type</th>
<th>Vertical</th>
<th>Area</th>
<th>Line</th>
<th>Metric</th>
<th>Table</th>
<th>Heat Map</th>
</tr>
</thead>
</table>

**Measure**

<table>
<thead>
<tr>
<th>Count</th>
<th>of Event ID</th>
</tr>
</thead>
</table>

**Group by (Optional)**

- App Name

**Results per group**

- ID

**Date Range (Optional)**

- Last 10 days

**Frequency (Optional)**

- 7 days

4. **Monitor app adoption trends**

Organizations migrate from one application to another for a variety of reasons, from better pricing to more robust feature sets. Application usage metrics are an effective tool to ensure your app migration efforts are successful. If your organization is migrating apps, Digital Employee Experience Management can help you optimize migration and monitor adoption trends to ensure that usage grows. For example, the following widget shows usage data for two apps: Microsoft Teams and Zoom. While Microsoft Teams has higher usage than Zoom, both apps appear fairly stable in their usage stats, and neither appears to be adding users.
To create an app usage comparison chart, create a custom widget similar to the following.

5. Augment data using Workspace ONE Sensors

On top of the rich out-of-the-box telemetry that Digital Employee Experience Management collects, you can collect additional data points with Workspace ONE Sensors. A sensor can collect data from devices that Workspace ONE UEM does not natively collect with PowerShell scripts. This data is then ingested by Workspace ONE Intelligence.

To add a sensor, in the Workspace ONE UEM console, navigate to Resources > Sensors.
After the sensor is set up and pushed to devices, Workspace ONE Intelligence collects the data. With this data, you can create dashboards and take actions using automation.

To visualize the data, create a widget that includes the Device Sensors category.

To learn more about setting up a sensor, see Collect Data with Sensors for Windows Desktop Devices. To download sample sensors, see Windows 10 - Workspace ONE Sensors Samples.

Summary and additional resources
For more information about Digital Employee Experience Management:
- Data Definitions
- Technical Overview Demo

You can also check out these blogs.
- Monitor Windows App Adoption and Stability with Workspace ONE Intelligence Digital Employee Experience Management (DEEM)
- Digital Employee Experience Management: Introducing User Experience Score
- Remediate device and app issues faster with Incidents, now GA in Workspace ONE Intelligence Digital Employee Experience Management