HPE Aruba Networking User Experience Insight (UXI) agent for Zebra

Get detailed insights into digital user experience on Zebra devices

Modernization journey

Employees scanning a barcode in a retail store, healthcare facilities, warehouse, manufacturing, airport venues etc. are a common sight now a days. Online orders arriving the next day, administering medicines, or reading guests records at venues all these activities require a fair amount of automation at the front end and heavy IT lifting at the backend, scanning barcodes for data storage and retrieval is the centerpiece of this modernization journey.

The implementation of bar- and QR-codes to read, store, and retrieve data in a matter of seconds has been perfected over the year. Handheld scanners have evolved to support the accelerated growth of automation, as well as the need for ruggedized and portable smart machines. Zebra is leading the innovation in the smart handheld scanner market and is the unmatched leader for manufacturing these handheld devices.

Network at the pivot of the modernization journey

Zebra devices are used across the warehouse, retail, grocery stores, healthcare, manufacturing, airport, drive-through pickups and hospitality industries. These devices perform, amongst other tasks, order fulfilment, inventory management, people management and drug administration functions. The handheld devices connect to the Wi-Fi network and continuously communicate with the organizations' backend servers and CRM applications for storing and retrieving data.

To successfully complete their functions, the Zebra handheld devices require a high performing and reliable Wi-Fi network. Any network glitch affecting set of Zebra devices performance affects series of critical workflows, leading to losses that start multiplying quickly.

Visibility into network performance is critical

When business operations rely on a stable internet connection for a fleet of devices, any network performance degradation like downtime or poor accessibility can prove costly. When the Wi-Fi connection drops on Zebra Android™ devices, end users escalate the complaint and open a high priority ticket mentioning — "Device not working". The IT team has no way to find whether the issue is related to Wi-Fi, servers or CRM applications. The Zebra support teams are not necessarily the IT teams and their visibility into how well handhelds are working on the network or how "real" the complaints are limited. Finding the cause of issues, and rapidly troubleshooting them is always a challenge for IT teams, this challenge is multiplied further on a distributed infrastructure, making the MTTI and MTTR processes a frustrating and often costly experience.

IT teams need continuous visibility and real stats for network performance from a Zebra device perspective. The need of the hour is a monitoring tool that can baseline, identify and alert IT teams, as well as provide step-by-step triage detail of what happened when the network failed to meet the performance SLA. This will not only help IT teams to keep a tab on overall end-user digital experience on Zebra devices, but also improve MTTI and reduce the cost of troubleshooting.

How HPE Aruba Networking UXI can help

HPE Aruba Networking User Experience Insight (UXI), a leader in network and application monitoring, in association with Zebra, has designed a solution that provides visibility into network performance as received by end-users on Zebra devices. This enables customers reduce business disruption, achieve higher application adoption and keep a tab on end-user digital experience in Zebra devices.

UXI has long been the go-to solution for IT teams for end user digital experience monitoring, remote troubleshooting, baselining network performance, validating change management and analyzing network trend data. With easy to deploy hardware sensors and cloud hosted AIOps powered dashboard, HPE Aruba Networking UXI provides network performance details as perceived by end users.

With the new product for Zebra devices — UXI agent for Zebra, HPE Aruba Networking UXI has added more capability into the existing solution. Besides keeping a tab on network and application performance, IT teams can now troubleshoot and get insight into end user roaming experience, voice calls and can get the exact location of network degradation — on a floor map — when a drop in network performance is experienced by end users.

Figure 1. HPE Aruba Networking UXI agent for Zebra in action

HPE Aruba Networking UXI agent for Zebra

The HPE Aruba Networking UXI agent for Zebra is an end point software agent deployed on Zebra handheld Android devices, these agents continuously perform passive synthetic tests to analyze network and application performance and provide in-depth insights into roaming and voice call quality, making sure that employees are not facing any network related issue while performing various tasks on their Zebra devices. When an issue does occur, the IT team can rapidly pinpoint the location and root cause of the issue and troubleshoot it. This not only reduces the operational cost (by cutting down site visits), but also greatly improves the overall efficiency of the workforce.

The in-depth analysis gathered by the UXI agent for Zebra devices is displayed on the UXI dashboard alongside analysis data gathered by UXI hardware sensors. The simple to understand UXI dashboard offers global to highly targeted analysis in just a few clicks and an overall understanding of the digital user experience at just "one glance".

Figure 2. UXI dashboard showing data from UXI agent for Zebra and hardware sensors

The HPE Aruba Networking UXI agent for Zebra leverages Zebra Mobility DNA Wireless Insights solution to get "real" insights from Zebra devices including network health, real-time roaming data and voice analysis across all devices, and the precise location of the network degradation, helping IT teams to differentiate between systemic and singular IT issues.

HPE Aruba Networking UXI hardware sensors — an added advantage

HPE Aruba Networking UXI hardware sensors are dedicated Linux® testing machines that are deployed at strategic locations across a facility, actively testing network and application performance. When the UXI sensors are used along with the UXI agent for Zebra, the solution provides unmatched visibility into the end user experience, baselines network and application performance, assists with efficient network planning, validates network changes, and expedites the overall MTTI and MTTR process.

When issues are detected, the sensors go into an automatic triage mode and try to recreate the issue — the UXI sensor automatically saves PCAP, checks for wireless association and authentication, compares wired and wireless performance, mimics a new user onboarding, and restarts the device. In this process the sensor tries to find the root cause of the issue along with the screenshot of the failed screen! This information serves as ground-zero for troubleshooting anecdotal complaints like — "Wi-Fi not working", "Wi-Fi is slow", "Connection getting dropped" etc. Plus, the sensors are designed to seamlessly blend into any infrastructure.

Figure 3. HPE Aruba Networking UXI sensor blends seamlessly in all infrastructures

Features and benefits — UXI agent for Zebra

Precise visibility into digital user experience on Zebra devices along with the ability to quickly identify and resolve network and application issues comes with cascading benefits. IT teams save time and use fewer resources diagnosing problems, workers stay productive and connected no matter where they roam in the facility, translating to higher revenue potential, lower operational costs and increased ROI.

The HPE Aruba Networking UXI agent for Zebra is a feature rich solution designed to complement the IT team's efforts to provide a seamless end user digital experience:

- **Synthetic application testing**

  The HPE Aruba Networking UXI agent for Zebra performs passive measurement of network and application performance in the background, even when the zebra device is not actively being used.

It performs the following tests on real Zebra devices to check network and application performance and help IT to proactively identify potential issues:

– AP Scan

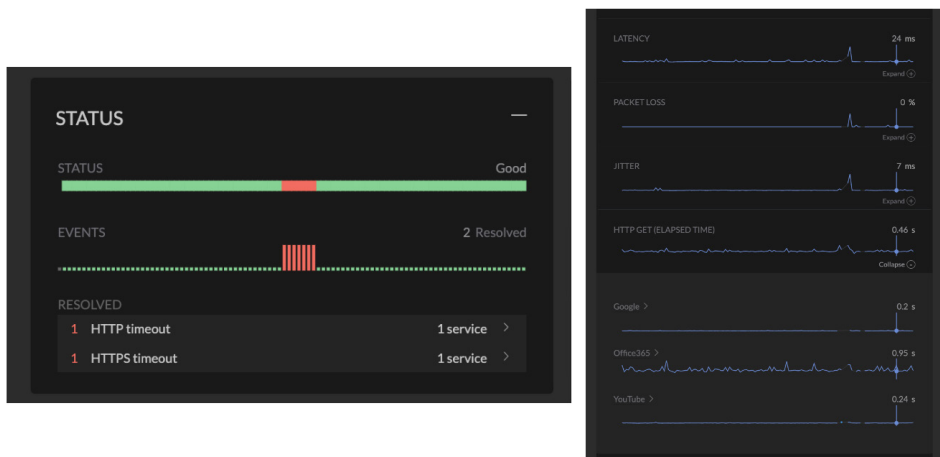– Gateway reachability

– DNS

– HTTP GET

– PING

Figure 4. UXI dashboard showing network performance data gathered by UXI agents running on Zebra devices

- **Real roaming analysis**

The HPE Aruba Networking UXI agent for Zebra leverages Zebra Mobility DNA Wireless Insights to provide packet-level analysis into roaming details.

IT teams can visualize overall roaming performance and get detailed insights when the roam is not successful, the UXI dashboard shows the following roaming details:

– Why a roam started

– Reason the roam failed

– Where the roam completed
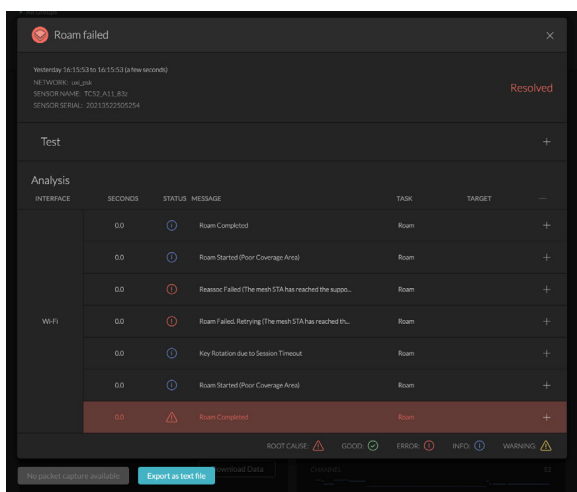
Figure 5. UXI dashboard showcasing step by step triage in case of a "Roam failed" scenario

• **Real SIP call analysis**

The HPE Aruba Networking UXI agent for Zebra leverages packet-level analysis provided by Zebra Mobility DNA Wireless Insights to provide real SIP calls results. It helps the IT team to understand whether a poor SIP performance is local or remote.
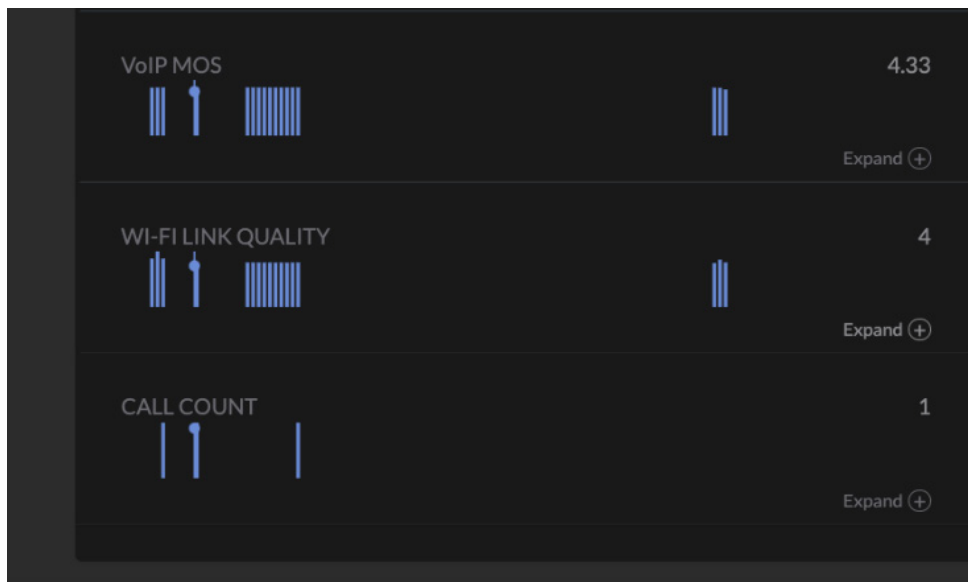
Figure 6. HPE Aruba Networking UXI dashboard showcasing SIP call quality parameters

• **Packet capture**

The HPE Aruba Networking UXI agent for Zebra goes into automatic triage mode when it detects an issue while performing synthetic tests and carries out step-by-step troubleshooting to identify the root cause, it also attaches packet capture for IT teams to drill down into the issue.

• **Simple to Install and configure**

The HPE Aruba Networking UXI agent for Zebra agent is available on Google Play™ to be downloaded on Zebra devices and supports managed configurations. Customers can also use their MDM to install and configure the agent on all of the supported Zebra devices.

• **Indoor location with 802.11mc**

The HPE Aruba Networking UXI agent for Zebra uses 802.11mc to provide the exact location of the issue when it is detected. The UXI dashboard tightly integrates with HPE Aruba Networking Central and gets the floor map of the facility from there and highlights the issue on the map during issue triage. It helps the IT team to pinpoint the network problem areas and focus their efforts instead of wasting time searching for problem areas. It also helps them to efficiently plan or upgrade the network.

Use cases

The use of handheld smart devices is critical to employee productivity, agility and the speed of decision making for many organizations today, combined with the growing need to reduce labor costs, improve inventory controls, and provide better customer service, requires a precise insight into "visibility to connectivity level" at a global scale. The UXI agent for Zebra provides a detailed network and application performance analysis from the Zebra device perspective, helping IT to gain insights into end-user digital experience on Zebra devices.

The benefits of this visibility span across verticals:

Warehouse — Getting visibility into network performance in facilities packed with large racks and machines which block the Wi-Fi signal or reduce its strength.

Healthcare — Ensuring Zebra devices are seamlessly connected to the Wi-Fi network while they are used to scan barcodes on a patient's wrist to administer drugs, choose medical equipment, or retrieve patient data from records, as well as rapidly pinpointing and fixing issues when they happen.

Airport checkpoints — Helping staff to keep the queue moving when they scan boarding passes, take check-in luggage, or take requests from customers.

Venue — Helping venue authorities to manage bookings and ensure seamless food and drinks sales by keeping a tab on Wi-Fi performance and POS device connectivity across every corner of the venue.

Retail — Ensuring the staff receive a stable digital experience when they perform inventory management, use the POS, or engage shoppers, verify the shoppers' digital experience when they browse inventory or pay at the POS on drive throughs.

Hospitality — Ensuring seamless connectivity for housekeeping and staff while they perform various tasks like concierge services and hotel management.
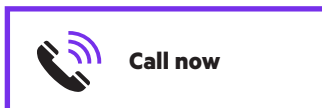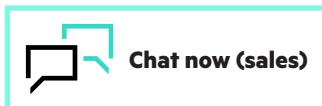
Government — Ensuring network issues areas are identified rapidly and issues are fixed so that works like electronic ticketing, service tracking, asset tracking can be seamlessly done using Zebra devices.

Sounds exciting?

Talk to our sales team today for a demo!

Learn more about HPE Aruba Networking UXI agent for Zebra

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