# Nexthink V6.2

## Product Overview

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# Nexthink End-User IT Analytics

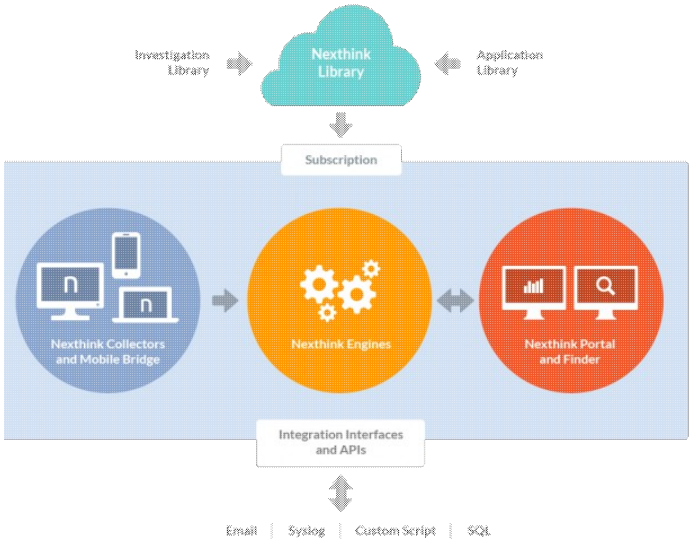
## Software components

Nexthink is the innovator of End-user IT Analytics for security, ITSM and workplace transformation. Nexthink maps all the IT services, how they are being consumed, and how the IT infrastructure is operating, from the only perspective that matters most, the end-users (workers). Nexthink provides essential visibility and insight into IT operations and security for IT Governance.

### Nexthink Architecture

The architecture of Nexthink has been designed to simplify operations, ensure scaling and allow a rapid deployment. The system is composed of six main software components:

- The Collector captures information from all end-user desktops and laptops.
- The Mobile Bridge captures mobile device information from Microsoft Exchange.
- The Engine aggregates Collector and Mobile Bridge information and provides real-time IT analytics.
- The Finder is the rich client application for searching and analyzing data on Engines.
- The Portal aggregates Engine information and provides dashboarding, reporting and long-term trending analytics.
- The Library is a cloud knowledge database.

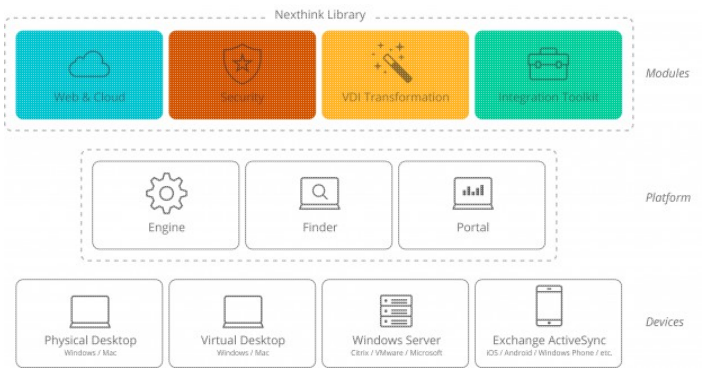



## Modular product structure

Nexthink offers a modular product structure that can grow with your needs. The Nexthink Platform is licensed with respect to the number of monitored physical or virtual devices and, optionally, server users. On top of the Platform, the following modules can be purchased:

- **Security** provides security related features including binary threat level and category, web threat level, category and hosting country.
- **Web & Cloud** grants access to analytics related to intranet and extranet HTTP and HTTPs web requests.
- **VDI Transformation** includes the analytics and Portal dashboards to ensure a successful VDI transformation project (coming soon for V6).
- **Integration toolkit** enables the product API and access to continuously improved integration samples, reports, etc.

Nexthink Platform as well as the modules grant access to investigations, widgets, dashboards, categories, etc. directly from the Nexthink Library, our cloud repository of content.



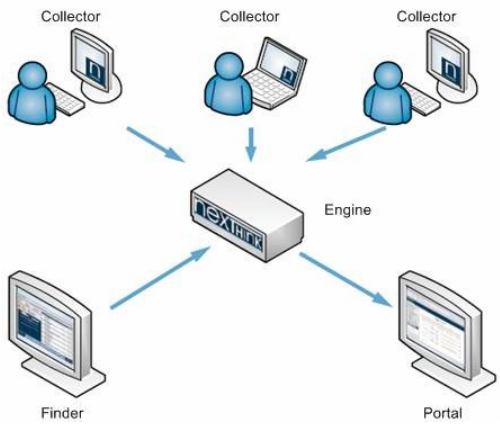

# Collector

## Introduction

The Collector is a light-weight agent based on patented technology. It captures and reports network connections, program executions, web requests, and many other activities and properties from the devices of the end-users on which it runs. It is implemented as a kernel driver and an accompanying service, offering remote and automated silent installations and negligible impact on the performance of local desktops, while minimizing network traffic.

| CPU usage | Memory usage | Network traffic |
|---|---|---|
| • Less than 0.015% | • Kernel: Around 500 KB<br>• User: Around 20 MB | • Between 0.1 - 0.3 Kbps |

The following figure depicts the functioning of the Collector as part of the whole Nexthink solution.




## Collector components

The Collector is mainly a kernel driver, but it is made up of several components:

Driver
: The core part of the Collector. It is responsible for gathering information about the devices and the activities of the end-users and for sending them to the Engine.
Applies to platforms:

Updater
: An optional companion service that detects whether there is a new version of the Collector available for installation. If so, the Updater downloads and installs the new version in the device of the end-user.
Applies to platforms:

Control Panel extension
: Add this optional component to see the configuration of the Collector and be able to change it from the Control Panel of Windows.
Applies to platforms:

## Features

### *Multi-Platform*

The Collector is available for both Windows and Mac OS operating systems. Originally developed for Windows, the Mac OS version of the Collector has some limitations with respect to its Windows counterpart. Besides Windows specific data, information on web requests and printing is not yet available in the Mac OS version of the Collector.

The automatic deployment of the Collector with the Updater is only available in the Windows platform.

### *CrashGuard*

Since the Windows Collector driver is a kernel-mode component, any error in its internals or its interaction with a misbehaving third-party driver can lead to system instabilities. Even with Nexthink putting as much attention as possible towards delivering bug-free software, the principle of precaution holds. The Crash Guard feature detects every system crash and it disables the Collector driver itself if the system crashes more than three times in a row after installation.

Applies to platforms:
### *Kernel traffic interception*

Some applications may send and receive data to and from the network using kernel-mode components, actually hiding their network traffic from user-space monitoring applications. Being a kernel driver itself, the Windows Collector is nevertheless able to detect and report such traffic.

Applies to platforms:
### *Paths aliasing*

The Collector identifies commonly used paths (e.g. C:\WINDOWS\, C:\Program Files\) and other special mount locations (removable mount points, network drives) with paths aliases. For example, if the DVD-Rom drive is mounted under D:, the Collector reports an application **setup.exe** being launched from this media as **%RemovableDrive%\setup.exe**.

### *Detection of Engine*

The Collector driver is able to detect when the Engine is not reachable in the local network. In this case, the Collector disables itself for 10 minutes.

### *Network interfaces supervision*

The Collector dectects if a network interface appears on or disappears from the device where it is installed. In this case, the Collector driver resends the whole context to the Engine. The process of adapting to a different network interface may take the Collector a few minutes.

### *Event logging*

Main events and errors are written to either the standard Windows event logs or Mac OS logs.

***On-the-fly configuration***

The Collector driver parameters can be changed through the Collector Control Panel extension or the Collector Configuration tool. There is no need to restart the computer for changes to become effective.

Related tasks

- Installing the Collector on Windows
- Installing the Collector on Mac OS

Related references

- Components of the Collector

# Mobile Bridge

The Mobile Bridge is a server software component that gathers information about the mobile devices which connect to your Microsoft Exchange mail servers through the ActiveSync protocol. The Mobile Bridge sends all the gathered data back to the Engine, where it is organized and stored along with the information sent by the Collectors.

Thanks to the Mobile Bridge, you can keep an eye on the access status and last synchronization time of all the mobile devices in your corporate network and establish links between your mobile users and desktop users. Nexthink offers you this information and much more from a single place in a uniform way, helping you keep your BYOD infrastructure under control. Query Nexthink about mobile devices and users by applying the same mechanisms that you would use for querying about desktop devices and users.

Related tasks

- Installing the Mobile Bridge

# Finder

Nexthink Finder, built upon powerful visualization techniques, is the search and user interface to render visibility into your IT infrastructure. Analyze IT services and query what you need within seconds. Expand or drill-down the results in a

few clicks to reveal swiftly, across the entire network, how many versions of a particular application are in use and on which workstations, the bandwidth consumed by the application, the servers and domains that the application accesses, the network response times, which users experienced issues, and much more.

## Engine

Nexthink Engine is a high-performance analytics software capable of processing millions of endpoint activities in seconds. Events sent in real time by Collectors populate the Engine with activity data, furnishing a rich repository of historical and live IT infrastructure usage data from the end-user perspective. Engine leverages an in-memory database for rapid queries (via the Nexthink Finder) and flexible reporting (via the Nexthink Portal).

Related tasks

- Installing the Appliance

## Portal

Nexthink Portal is the reporting tool, collaboration platform and centralized management platform of the Nexthink End-User IT analytics platform. A comprehensive set of dashboards are delivered out-of-the-box but it is possible in a matter of minutes to construct custom dashboards, valuable for anyone in the organization. Personalized metrics are simple to define as drag-and-drop widgets and can be quickly published and shared. Nexthink Portal front-end is a web application running inside a browser.

Related tasks

- Installing the Appliance

## Nexthink Library

The Nexthink Library is an online knowledge database that gives you access to theme-based files, a large set of ready-to-use predefined investigations, templates, dashboards and application information accessible directly from the Finder and the Portal.

A separate component of the Nexthink Library is the Application Library. The Application Library helps you identify potential threats by submitting the digital footprint of any application found on a desktop or visited web domain to its reference databases. Thanks to the full integration between the Application Library and the Engine, your infrastructure information is always fully up-to-date, without the need for any manual interaction.

Related references

- Nexthink Library
- Nexthink Application Library

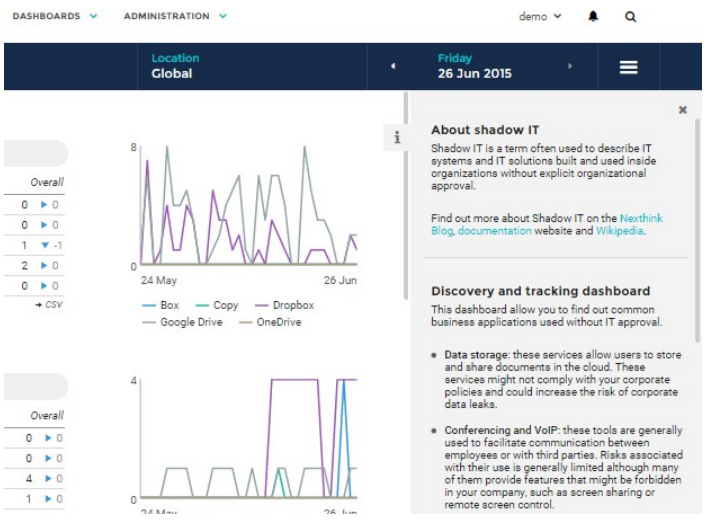
# What's new in V6.2

## New features

V6.2 comes with a wealth of new features aimed at simplifying and improving the use of the product. Moreover, we did substantial work on further optimizing Engine performance.

### Dashboard description

John, the Nexthink administrator at Acme Corp. (a fictitious customer), has just finished creating a great dashboard that can be used to discover and track the usage of Shadow IT products in the organization. He wants to share this dashboard with several people in the IT team, but he's afraid that without some explanations not everyone will be able to fully understand the content and how to use it.




With V6.2 John can now write documentation directly inside of Portal and even create links to investigations in Finder. Thanks to this feature John is sure that everyone will be able to fully understand the risks posed by Shadow IT. Just like our user John, you too can now make sure everyone can fully understand the content of your dashboards.

Find out more

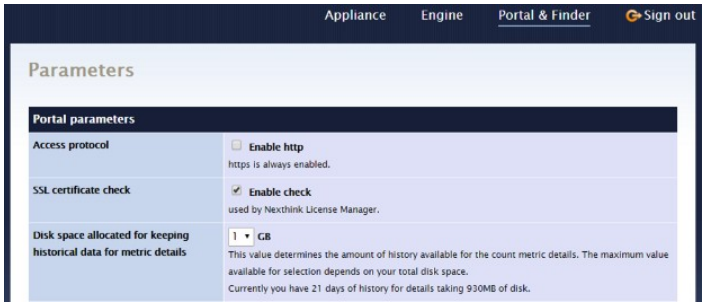
## Microsoft DirectAccess support

DirectAccess is a technology from Microsoft that allows remote users to securely access internal network file shares, Web sites and applications without connecting to a VPN. DirectAccess works by creating a IPv6 tunnel from the remote PCs to the DirectAccess server. Starting from V6.2 all Nexthink components are able to communicate in a DirectAccess environment; moreover Collector will report network and web traffic transiting through a DirectAccess tunnel.

Find out more

## Details in the past

Nexthink Portal allows you to track the evolution of your metrics for an unlimited period of time. Moreover, for metrics of type *count*, additional details about the involved objects are also available. For instance, if you click on a metric tracking the number of devices infected by malware, you will see the full list of infected machines. These details were, until today, limited to the current timeframes (yesterday, current week, current month, current quarter).




The latest version of Portal allows you to reserve additional disk space on the Portal appliance to store details for a longer period. If you want more data, you just need to add more disk space.

Find out more

## Portal on your Operation Center big screens

Thanks to the real-time service overview dashboard introduced in V6.0, Portal is the ideal product to be displayed on your Ops Center big screen. To facilitate this use case, you can now configure a special account so that it's never signed out from Portal.

This gets even better when you want to display multiple dashboards in a slideshow. There are a number of free browser plugins that allow you to do just that!

Find out more

## Improved Smart Search

The Finder search is getting even smarter. The system now provides suggestions based on services names and entities; for instance you can search for *users of SAP* or *devices in Dublin or Rome*.


In addition, we've added a set of new suggestions:

- New binaries/applications/executables
- Application Library fields
    - ♦ Domains classified as ? [e.g. Malicious domains]
    - ♦ Domains hosted in ? [e.g. Domains France]
    - ♦ Binaries classified in ? [e.g Binary virtualization]
- All servers
- Devices with low network availability
- Devices with high network response time
- Search user with full name (AD)

Find out more

## Faster investigations

V6.2 comes with an Engine optimized for speed. Investigations will run up to 3.5 times faster thanks to increased parallelism during the computation of complex investigations and some code-level performance optimizations. You can accumulate this with the aggressive aggregation policies introduced in V6.1 for an even greater performance gain. Existing customers can contact Nexthink

Customer Success Services to discuss the best data optimization strategy for their infrastructure.

## Other features

### *Improved access rights*

We improved the way access rights are assigned. Now any *central administrator* can be given exactly the same rights as the *main central administrator*. Note that by default all *central administrators* will automatically gain the right to manage licenses. Central administrators with the *system configuration* right will automatically be able to publish Web API investigations and trigger a manual Engine AD sync. Find out more

### *Security improvements*

When installing the product for the first time, HTTPS is the default Portal setting. Legacy HTTP access can still be activated in the Nexthink console.

### *nxt:// protocol*

We've added two additional commands to the nxt:// protocol which allow you to edit metrics and categories. Find out more

### *Default aggregation policy*

The default aggregation policy has been changed to *normal*. In general this increases the available Engine history by up to 10%.

### *Full traffic anonymization*

Whether you need this for your pre-production environment or to comply with your privacy policy, you can now chose to completely anonymize Collector traffic, even before it reaches the Engine. Find out more

# Data-model changes

Nexthink V6.2 comes with 10 new aggregates to get better and faster answers out of the product.

## Application stability

These two aggregates can be used to identify your least stable applications, even if they are used by just a few users. These aggregates are available for the following objects:

- Users
- Devices
- Applications
- Executables
- Binaries

| Field | Group | Type | | | |
|---|---|---|---|---|---|
| Application crash ratio | Errors | Aggregate | | | |
| | Indicates the number of application crashes per 100 executions. | | | | |
| Application not responding event ratio | Errors | Aggregate | | | |
| | Indicates the number of application not responding events per 100 executions. | | | | |

## Incoming and outgoing network traffic per device

These two aggregates can be used to identify applications that are generating a large amount of network traffic, even if they are used by just a few users. These aggregates are available for the following objects:

- Applications
- Executables
- Binaries
- Ports
- Destinations

| Field | Group | Type | | | |
|---|---|---|---|---|---|
| Incoming network traffic per device | Volume | Aggregate | | | |
| | Indicates the incoming network traffic divided by the number of devices. | | | | |
| Outgoing network traffic per device | Volume | Aggregate | | | |
| | Indicates the outgoing network traffic divided by the number of | | | | |

| | |
|---|---|
| | devices. |

## Incoming and outgoing web traffic per device

These two aggregates can be used to identify applications that are generating a large amount of web traffic, even if they are used by just a few users. These aggregates are available for the following objects:

- Applications
- Executables
- Binaries
- Ports
- Destinations
- Domains

| Field | Group | Type | | | |
|---|---|---|---|---|---|
| Incoming web traffic per device | Volume | Aggregate | | | |
| | Indicates the incoming web traffic divided by the number of devices. | | | | |
| Outgoing web traffic per device | Volume | Aggregate | | | |
| | Indicates the outgoing web traffic divided by the number of devices. | | | | |

## Total network and web traffic

These two aggregates can be used to compute the total web or network traffic. These aggregates are available for the following objects:

- Users
- Devices
- Applications
- Executables
- Binaries
- Ports
- Destinations
- Domains (only web traffic)

| Field | Group | Type | | | |
|---|---|---|---|---|---|
| Total network traffic | Volume | Aggregate | | | |
| | Total network traffic (incoming and outgoing) | | | | |

| | | | | | |
|---|---|---|---|---|---|
| Total web traffic | Volume | Aggregate | | | |
| | Total web traffic (incoming and outgoing) | | | | |

## Changes in boot and logon duration

There are now two different ways to look at boot and logon duration.

### *Aggregate values*

The following values represent the duration of boots and logons which happened during the timeframe of the investigation. If no boot or logon happened during this timeframe, then a dash (-) is reported.

| Field | Group | Type | | | |
|---|---|---|---|---|---|
| Average system boot duration | Startup | Aggregate | | | |
| | Indicates the average system boot duration. | | | | |
| Average user logon duration | Startup | Aggregate | | | |
| | Indicates the average user logon duration. | | | | |

### *Baseline values*

The downside of the two aggregate values presented above is that if no boots or logon happened for a device during the investigation period, then no value is reported. For this reason we provide two additional values representing the moving average of boot and logon times. The values do not depend on the time frame specified in the investigation.

| Field | Group | Type | | | |
|---|---|---|---|---|---|
| System boot duration baseline | Startup | Field | | | |
| | Indicates the system boot duration averaged over the last boots. In the calculation, recent boots weigh more than older boots (exponentially weighted moving average). | | | | |
| User logon duration baseline | Startup | Field | | | |
| | Indicates the user logon duration averaged over the last logons. In the calculation, recent logons | | | | |

| | |
|---|---|
| | weigh more than older logons (exponentially weighted moving average). |

# What's new in V6.1

## New features

With V6.1, Nexthink fully supports migrations from earlier versions of the product. Moreover, V6.1 Engines can be optimized to store up to twice the amount of history with respect to V5.

### Ready for migration

With this new release, Nexthink supports migrations from Nexthink V5.3. In order to simplify the migration process, V6.1 Portal can display, in read-only mode, legacy V5 dashboards. Existing customers can contact their account manager for a personalized migration offer.

### Up to 2x history length in the Engine

Thanks to new compression algorithms, Engines can be configured to retain up to twice the amount of history, without any additional hardware requirements and with negligible loss of precision. Existing customers can contact Nexthink Customer Success Services to discuss the best data optimization strategy for their infrastructure.

### A new anonymization mode

A new data anonymization mode has been introduced to make users and devices anonymous. This feature is in response to specific customer requests. For instance this mode can be applied to users who need to know if a service is functioning well, but do not need to know if any specific user has a problem. Find out more

### Updater

The Nexthink Updater is again being shipped as part of the product. Please note that V6 Collector requires V6 Updater: existing customers relying on Nexthink Updater need to switch to version 6 in order to upgrade Collectors to V6. Find out more

# Data-model changes

## Metrics

### *Successful HTTP requests ratio*

A new aggregate **Successful HTTP requests ratio** is now available in metrics. This aggregate can be used to track HTTP web services client and server errors.

### *Forbidden aggregates*

Count metrics with a group-by referring to a different object no longer support aggregates conditions which include the value 0 (zero).

# What's new in V6.0

## New features

Whether you are CIO, IT Manager, Administrator, or an interested line of business manager, End-user Analytics is changing the way IT organizations are aligning their operations with the needs of the business and the end-user. With the V6 release, Nexthink is enabling organizations to accelerate and simplify the management and transformation of their complex IT infrastructure and amid rapidly changing business requirements and end-user work styles.

### A brand new Portal

The simple, modern, flat look and feel of Portal V6 brings all focus on the data.

- The separation of the metric definition and UI presentation brings more power to you: now easily define the metrics that you want to compute and then combine them in your favorite visualizations. Find out more about Creating A Metric and Following The Evolution Of A Metric.

- Time and location have been unified in dashboards allowing you to compare data at a glance as you navigate. Find out more

- The new layout manager in Portal V6 based on award winning visual concepts allows you to easily arrange elements in a dashboard, any way you want and it always looks great! With new widgets, graph types, immediate previews and simplified steps designing and sharing custom and role-based dashboards is now a matter of minutes. Find out more

- The new service overview dashboard in Portal V6 helps you understand at a glance the status of all your IT services from the perspective of the end-users, in real-time. New service detail dashboards help you quickly understand how a service is used, where problems are located and identify users that are impacted. Find out more

### User view

The new User View in Finder V6 presents all devices, information, activities, issues, changes and services related to an end-user, all in one place and against one timeline. In one click understand if an event or issue is reoccurring for a

specific user, since when and how often. New drill downs will accelerate problem identification and resolution by enabling you to check how many end-users are affected by similar patterns. Find out more

### Server Collector

Extend your End-user Analytics with Windows Server Collector V6 to go beyond the first destination and start discovering, mapping and understanding end-to-end dependencies related to the end-user experience and service consumption while increasing overall security and compliance.

### Content centralization

In the new V6 platform metrics, services, and categories are centralized and automatically synchronized across all Engines. Find out more

- Changes in categories and services are automatically reflected in dependent metrics and services to simplify the configuration.
- Metrics can be easily created in Finder starting from an investigation, and few click later you will be visualizing them in your Portal dashboard. Find out more
- Service thresholds are defined directly within Finder. Find out more
- Finder automatically proposes the list of available Engines during connection ? login once, and switch Engine in 3 seconds. Find out more

## New system requirements

### Portal hardware requirements

The number of cores required by the Portal appliance has been changed for large installations (starting from 20k devices). See Hardware Requirements for more information.

### Connectivity requirements

V6 Finder connects to Portal using port 443 for authentication and managing centralized content. To support this, Engine connects to Portal using three additional ports: 7000, 7001 and 7002. See Connectivity Requirements for more information.

# Data-model and API changes

## Device

### *Device type*

The field **Device type** now includes values **server** and **mobile**.

### *Number of logical processors*

Added a new field **Number of logical processors** representing the total number of threads seen by the operating system.

### *Entity*

The **Entity** field replaces the V5 ***Entity** category. Finder will automatically migrate investigations, one-click investigations and alerts.

### *Last system update*

The semantic of **Last system update** has been modified to take into account only the last successful system update; moreover the value is now updated even when other tools (such as SCCM) are used to deploy Windows updates.

### *IO and page faults*

The fields **High IO throughput time** and **High page faults time** can no longer be used with condition on Activities and Events.

## NXT protocol

The syntax used to authorize and authenticate a user using the NXT protocol has been modified. See Bidirectional Integration With The Finder for more information.

# Deprecated features

## Data model

### *OS version*

The field **OS version** has been deprecated in favor of **OS version and architecture**. The Finder automatically migrates those existing investigations, one-click investigations, and alerts that use the deprecated field.

## Portal features

### *Types of widgets*

Dashboards have been completely reworked to be visually more appealing and easier to create. In V6, the widgets included in dashboards are directly linked to the new concept of metrics. Therefore, all V5-style widgets have been deprecated, except for the software metering widget (at least partially).

### *Widget-related alerts*

To unify the methods of alerting users, no widget has the ability to independently send email alerts to selected recipients anymore. That includes the software metering widget, even if this widget remains in the V5-style.

### *VDI assessment and capacity planning*

The VDI assessment and capacity planning module is no longer included in the Portal. Corresponding features will be re-introduced in a later product release.

### *Portal reports*

Reports in Microsoft Word format are no longer included in the Portal. An improved version will be included in a later product release.

## Finder features

The **Compare with** tool in the **Timeline** tab of the device view has been deprecated. It is kept in the **Properties** tab of the device view, and it appears in the same tab of the new user view.