

Office Support / Office 365 Admin

Office 365 Client Performance Analyzer

APPLIES TO: Office 365 Admin



You can use the Office 365 Client Performance Analyzer (OCPA) tool to identify issues that affect network performance between your company's client PCs and Office 365. For example, if you're having issues connecting to Office 365 or you're connecting, but it's very slow, you can use the tool to help troubleshoot the issue. OCPA doesn't collect any personally identifiable information (PII) data, but it'll save diagnostic data.

OCPA checks for a few things when it runs the tests:

- Analyses network performance from client to Office 365 datacenter.
- Collects DNS and ISP details.
- Makes sure that all your ports required for Office 365 to work correctly are enabled.
- End user environment information (OS, browser, hardware configurations)
- Traces routes and measures bandwidth available.
- Checks download times and ping statistics.

Supported operating systems

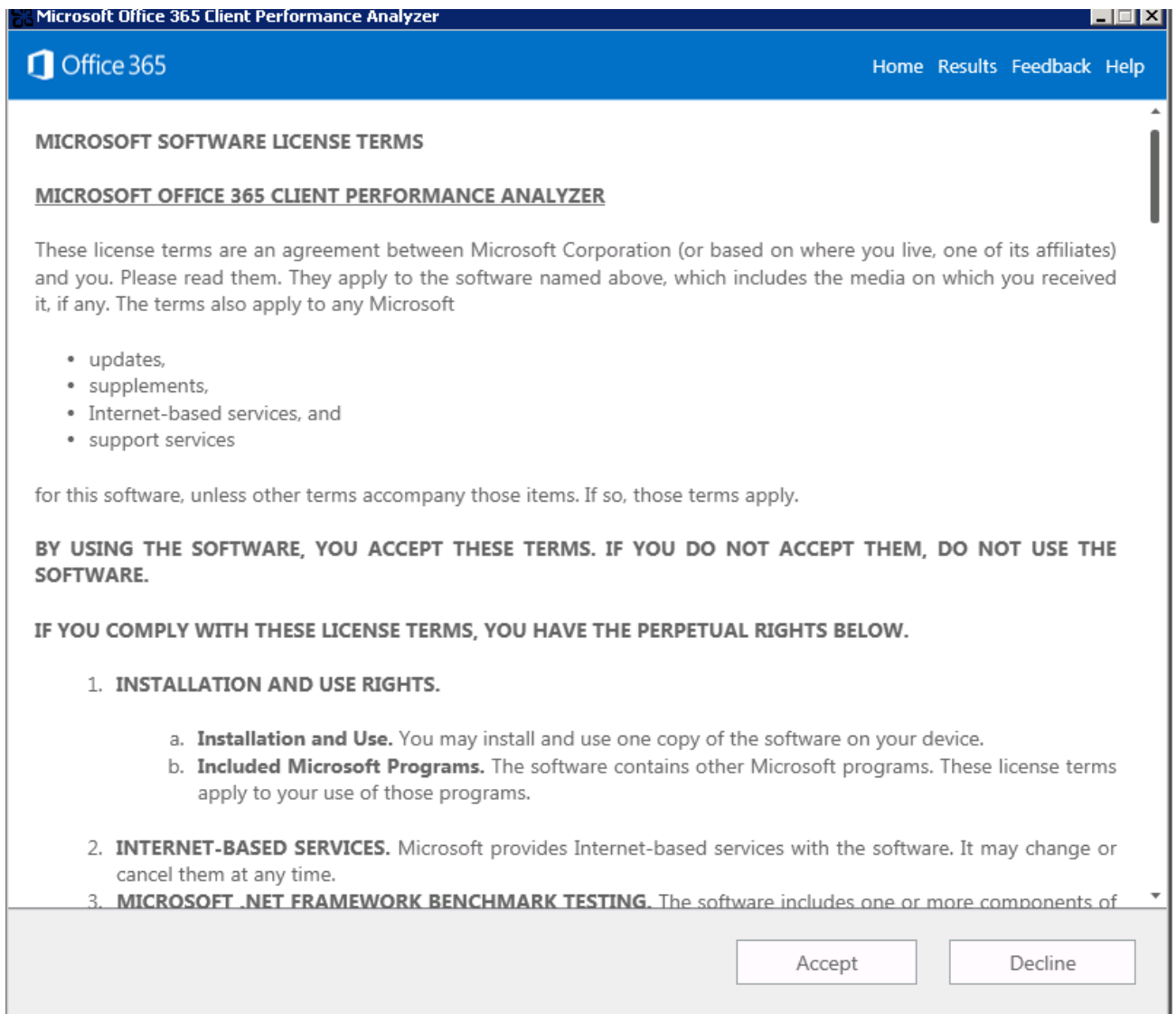
You can run OCPA on the following operating systems:

- Windows 7
- Windows 8
- Windows 8.1
- Windows 10
- x86 or x64 platform
- .NET Framework 4.5 and later

Download and install OCPA

You can download OCPA [here](#).

1. Click or tap **Run** to install OCPA to your machine.
2. Click or tap **Accept** to start OCPA.

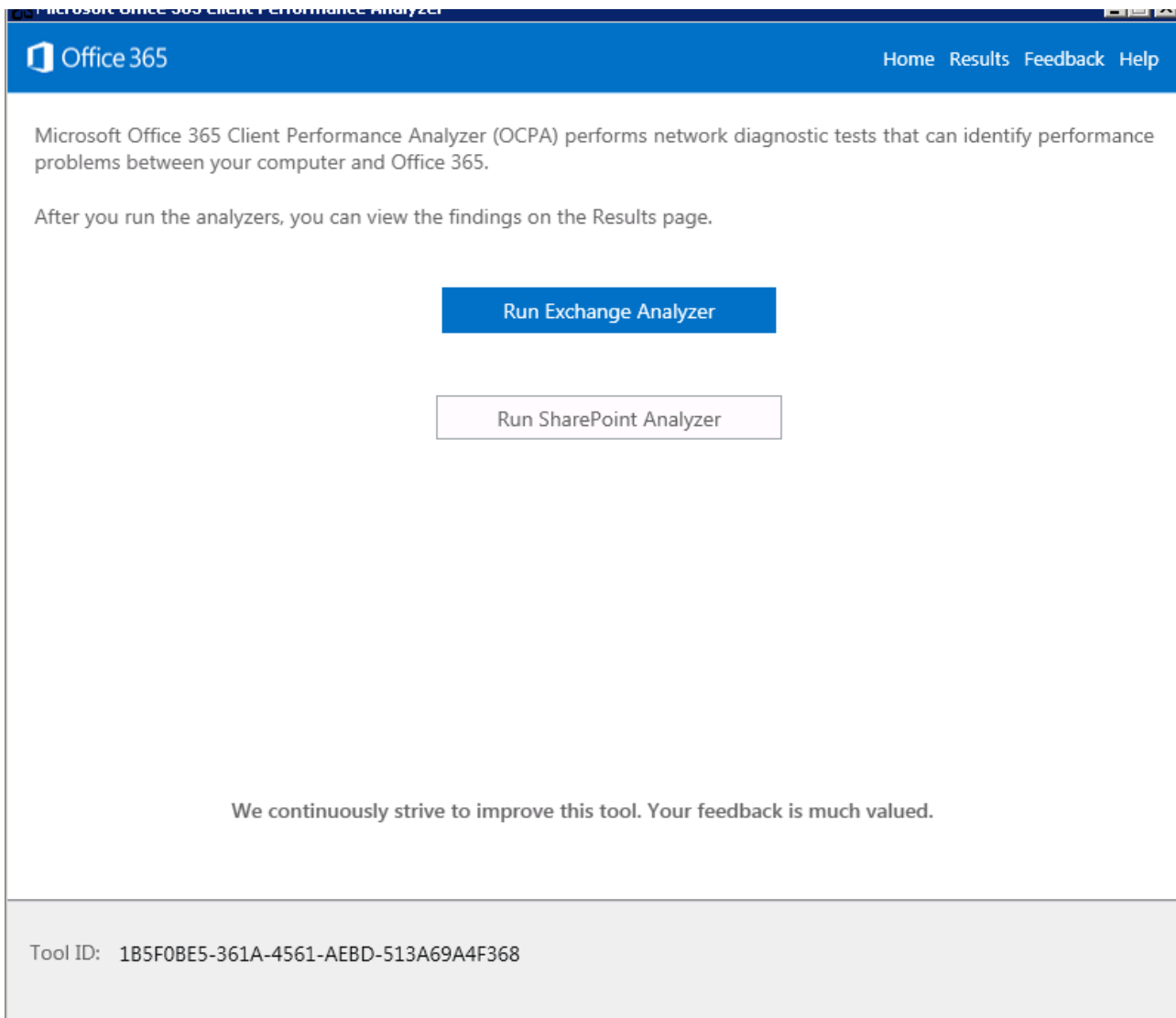


You can run OCPA tests for either Exchange or SharePoint.

NOTE: OCPA automatically upgrades to the latest version every time it starts.

Use OCPA to run the Exchange Analyzer

1. Once the tool is installed, on the **Start** menu, choose **Microsoft Office 365 Client Performance Analyzer**.
2. On the main tool page, run the **Exchange Analyzer**.



3. Enter your Exchange Online email address and press **OK** to start the run. OCA can run in the background and collect data every few hours for a month. If don't want OCA to run in the background, uncheck the selection.

The screenshot shows a dialog box from the OCA tool. It prompts the user to 'Please provide your Exchange Online email address:'. Below this is a text input field containing the email address 'sardor@northwindtraders.onmicrosoft.com'. Underneath the input field is a checkbox that is checked, with the text 'Allow OCA to run in the background collecting diagnostics every few hours for you.' At the bottom of the dialog are two buttons: a blue 'OK' button and a light blue 'Cancel' button.

NOTE: You'll have to enter your Exchange Online email address and password every time you run the tool.

After the diagnostic run, click **Yes** to see the results.

Test Results

to fix any issues. Choose the drop-down next to **App Type** to select either an Exchange Online or SharePoint Online report. You can also take a look at a report from a particular date. Choose the drop-down next to **Run On** to take a look at report from a specific date.

Microsoft Office 365 Client Performance Analyzer		
Office 365		
Home Results Feedback Help		
Property	Value	Expected Value
Application Type	Exchange	-
Client Operating System	Microsoft Windows Server 2008 R2 Enterprise	-
Client Memory (GB)	64	-
Client CPU (Cores)	4	-
Client CPU (Cores)	4	-
Run from Country	US	-
Run from State	US_WASHINGTON	-
Unique Internet Service Provider Id (ASN)	1234567	-
Run from Internet Service Provider (ISP)	Contoso, Ltd.	-
TCP port 80 (HTTP)	OPEN	OPEN
TCP port 443 (HTTPS)	OPEN	OPEN
TCP port 587 (SMTP)	OPEN	OPEN
TCP port 993 (IMAP)	OPEN	OPEN
TCP port 995 (POP)	OPEN	OPEN
Office 365 Service Endpoint Out of Region	NO	NO
DNS Server Out of Region	NO	NO
DNS server name	dns1.seattle.contoso.com	-
DNS server ip address	10.45.22.1	-
DNS resolution time (ms)	2	<= 25
Network hops to Office 365 service	19	<= 25
<div> <div>Exchange</div> <div>11/10/2015 2:11:39 PM</div> </div> <div> <div>Download result file (.xlsx)</div> <div>Show Trace Route Details</div> </div>		

Use OCPA to run the SharePoint Analyzer

1. Once the tool is installed, on the **Start** menu, choose **Microsoft Office 365 Client Performance Analyzer**.
2. On the main tool page, run the **SharePoint Analyzer**
3. Enter a SharePoint Online URL and press **OK** to start the run. OCPA can run in the background and collect data every few hours. If don't want OCPA to run in the background, uncheck the selection.

Please provide your Sharepoint Online URL

<https://northwindtraders-my.sharepoint.com>

☒ Allow OCPA to run in the background collecting diagnostics every few hours for you.

OK

Cancel

Test Results

On the results page, take a look at what the OCPA tool found. Look in the **Comment** column for actions you can take to fix any issues. Choose the drop-down next to **App Type** to select either an Exchange Online or SharePoint Online report. You can also take a look at a report from a particular date. Choose the drop-down next to **Run On** to take a look at report from a specific date.

Microsoft Office 365 Client Performance Analyzer		
Office 365		
Home Results Feedback Help		
Property	Value	Expected Value
Application Type	Sharepoint	-
Client Operating System	Microsoft Windows Server 2008 R2 Enterprise	-
Client Memory (GB)	64	-
Client CPU (Cores)	4	-
Client CPU (Cores)	4	-
Run from Country	US	-
Run from State	US_WASHINGTON	-
Unique Internet Service Provider Id (ASN)	1234567	-
Run from Internet Service Provider (ISP)	Contoso, Ltd.	-
TCP port 80 (HTTP)	OPEN	OPEN
TCP port 443 (HTTPS)	OPEN	OPEN
TCP port 587 (SMTP)	OPEN	OPEN
TCP port 993 (IMAP)	OPEN	OPEN
TCP port 995 (POP)	OPEN	OPEN
DNS server name	dns1.seattle.contoso.com	-
DNS server ip address	10.45.22.1	-
DNS resolution time (ms)	2	<= 25
Network hops to Office 365 service	28	<= 25 Please work with network administrator for routing between you and Office 365 service. Make sure your DNS server is located in the same region as where you are currently located. Running "inconfig /flushdns" in
Sharepoint	11/10/2015 1:34:53 PM	
Download result file (.xlsx)		Show Trace Route Details

Test Definitions

The table below provides a mapping for each property listed in the test result file that you download for the Exchange and SharePoint tests.

Name	What it means
TCP port 80	This field shows whether HTTP is listening.
TCP port 443	This field shows whether HTTPS is listening.
TCP port 587	This field shows whether SMTP is listening.
TCP port 993	This field shows whether IMAP is listening.
TCP port 995	This field shows whether POP is listening.
DnsServerName	Shows the DNS server name that the client is using.
DnsServerIp	DNS server IP address.
CdnCountry	CDN stands for Content Delivery Network. This field shows at which country the CDN endpoint is.
CdnState	CDN state.
CdnIspdf	CDN ISP.
CdnIspName	CDN ISP name.
CdnResponseTime_CdnBigFileUrl	The time it takes to request a file of size 32.7MB from CDN, in milliseconds.
ClientBandwidthInKbps_CdnBigFileUrl	The download speed of getting the 32.7MB file, in Kbit/sec.
r1.res.office365.com_DnsTime	The time it takes to request CDN DNS, in milliseconds.
r1.res.office365.com_Hops	The number of hops it takes to reach CDN.
r1.res.office365.com_PacketLostPercent	The percentage of packet loss to the CDN. Small amounts are acceptable, but if this is 1% or greater it should be investigated.
r1.res.office365.com_RoundTripTime	The round trip time it takes from your computer to CDN, in milliseconds

outlook.office365.com_CName	This is the Office365 CName from DNS.
aoutlook.office365.com_DnsTimed	The time it takes to resolve outlook.office365.com in milliseconds.
outlook.office365.com_Hops	The number of hops it takes to reach Office365.
outlook.office365.com_PacketLostPercent	The percentage of packet loss to the Exchange server.
outlook.office365.com_RoundTripTime	The round trip time it takes from your computer to Office365, in milliseconds.
CafeCountry	The country where the Client Access Front End (CAFE) server is located.
CafeState	The state where the CAFE server is located.
CafeIsp	CAFE ISP.
CafeIspName	CAFE ISP Name.
ClientId	OCPA Client Guid.
ClientVersion	OCPA version number.
ClientDomain	The domain of the Office 365 tenant that you're using.
ClientCountry	The country of the Office 365 tenant that you're using.
ClientState	The state of the Office 365 tenant that you're using.
ClientIsp	The ISP name of the Office 365 tenant that you're using.
Caption	Your computer's operating system.
TotalPhysicalMemory	Size of memory on your computer, in GB.
NumberOfProcessors	Number of processors on your computer.
NumberOfCores	Number of cores on your computer.

How to troubleshoot OCPA test results

The following table provides issues that the OCPA test could report and how to troubleshoot them.

Attribute	Threshold	Troubleshooting steps
CDN response time (ms) The time it takes to download a file of size 1.66MB from CDN, in milliseconds.	Good: < 1000 ms Medium: 1000 ms ~ 5000 ms Bad: > 5000 ms	1. Check whether your location is geographically far away from CdnState. 2. If so, flush DNS by running "ipconfig /flushdns" in Command Prompt. If it doesn't help, get help from a network engineer.
Client download bandwidth (Kbps) The download speed of getting the 32.7MB file, in Kbit/sec. It is shown as Client download bandwidth (Kbps) in OCPA.	Good > 5120 Kbps Medium: 1024 Kbps ~ 5120 Kbps Bad < 1024 Kbps	You may have a bandwidth issue downloading a big file. Upgrading to a faster network might yield better results.
Network latency to Office 365 service (ms) The round trip time it takes from your computer to Office365, in milliseconds.	Good: < 50 ms Medium: 50 ms ~ 275 ms Bad: >275 ms	1. Check whether your location is geographically far away from CAFE State. For how to determine CAFE State, please refer to the mapping table below. 2. If so, run "ipconfig /flushdns" in Command Prompt.
Dns resolution time (ms) The time it takes to resolve outlook.office365.com in milliseconds.	Good: < 10 ms Medium: 10 ms ~ 25 ms Bad: >25 ms	1. Work with network administrator to make sure VPN or internal network is routing to correct DNS servers. 2. If not, run "ipconfig /flushdns" in Command Prompt.
Network hops to Office 365 service The number of hops it takes to reach	Good: < 14	1. Check whether your location is geographically far away from CAFE State. For how to determine CAFE

TCP port 80 (HTTP)	Not listening	If this port isn't listening, you may not be able to access the Microsoft website. Check firewall or network router settings, which may have blocked the port.
TCP port 443 (HTTPS)	Not listening	If this port isn't listening, outlook and mobile devices may not be able to connect or sync. Check firewall or network router settings, which may have blocked the port.
TCP port 587 (SMTP)	Not listening	If this port isn't listening, you may not be able to send emails. Check firewall or network router settings, which may have blocked the port.
TCP port 993 (IMAP)	Not listening	If this port isn't listening, you may not be able to receive emails. Check firewall or network router settings, which may have blocked the port.
TCP port 995 (POP)	Not listening	If this port isn't listening, you may not be able to receive emails. Check firewall or network router settings, which may have blocked the port.

Provide result information to your admin

You can also share the report with your Office 365 admin. You can do this by clicking on **Download the result file**, which exports the results into a Excel file. You can then save, and email the file to your Office 365 admin.

Datacenter to geographic location mapping

Datacenter	Region	Location
CP1	LAM	Brazil
GRU	LAM	Brazil
GRX	LAM	Brazil
HKN	APC	Hong Kong
HKX	APC	Hong Kong
HK2	APC	Hong Kong

SIX	APC	Singapore
SIN	APC	Singapore
SG2	APC	Singapore
KAW	JPN	Japan
OS1	JPN	Japan
OS2	JPN	Japan
TY1	JPN	Japan
AM3	EUR	Amsterdam, Netherlands
AM2	EUR	Amsterdam, Netherlands
AMS	EUR	Amsterdam, Netherlands
AMX	EUR	Amsterdam, Netherlands
DB3	EUR	Dublin, Ireland
DB4	EUR	Dublin, Ireland
DBX	EUR	Dublin, Ireland
HE1	EUR	Finland
VI1	EUR	Austria
BL2	NAM	Virginia, USA
BL3	NAM	Virginia, USA
BLU	NAM	Virginia, USA
SN1	NAM	San Antonio, USA

SN2	NAM	San Antonio, USA
BN1	NAM	Virginia, USA
BN3	NAM	Virginia, USA
DM1	NAM	Des Moines, Iowa, USA
DM2	NAM	Des Moines, Iowa, USA
BY1	NAM	Bay Area, USA
BY2	NAM	Bay Area, USA
CY1	NAM	Cheyenne, Wyoming, USA
CY2	NAM	Cheyenne, Wyoming, USA
CO1	NAM	Quincy, Washington, USA
CO2	NAM	Quincy, Washington, USA
CH1	NAM	Chicago, USA

Additional information

Send us feedback about your OCPA experience so that we can continue to make improvements!

We would love to hear from you!

Before you close, please tell us about your experience.

How did we help with your problem? *

- ☐ Tool helped me understand the issue
- ☐ Tool needs additional checks and more information
- ☐ Tool did not help me

Please tell us more so we can improve this tool.**How would you rate your experience?**

Questions? [Email](#) us instead.

We continuously strive to improve this tool. Plase come back if you have any issues in the future. Thanks!

[Submit](#)

Was this information helpful?

Yes

No



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