



NICE **uptivity**  
Agile WFO for SMB

## **Customer Site Requirements 17.1**

# Customer Site Requirements

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# Introduction

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## Audience

This document is written for customers and prospective customers interested in using Uptivity. Readers should have a basic level of familiarity with general networking and their organization's LAN, their organization's PBX, the business rules in their contact center(s), usage of a PC and its peripherals, and the Windows operating system.

## Goals

The goal of this document is to provide knowledge and reference information necessary to install and maintain an Uptivity system in an organization's IT environment.

**Note:**

This document is NOT intended as a specific system or network design document, nor is it designed to educate the reader on contact center concepts or best practices.

## Assumptions

This document assumes the reader has access to an Uptivity Sales Engineer, Project Manager, or other resource to assist in applying this information to the reader's environment.

## Need-to-Knows

Uptivity is a robust platform with multiple modules that can be used alone or in any combination with each other. These modules include:

- NICE Call Recording
- NICE Uptivity Screen Recording
- NICE Uptivity Quality Management
- Uptivity Speech Analytics
- Uptivity Survey
- Desktop Analytics

This document covers requirements for Uptivity systems that include one or more of the following: NICE Call Recording, NICE Uptivity Screen Recording, NICE Uptivity Quality Management, and Desktop Analytics.

Uptivity Survey and Uptivity Speech Analytics have requirements in addition to those listed here.

## Customer Site Requirements

Depending on the PBX integration, there may also be additional hardware, software, and licensing requirements for call recording. Consult your Uptivity representative for customer integration guides and Uptivity license information.

## Server Requirements

**Warning:**

The specific hardware and system software required for your implementation is determined by Uptivity Sales Engineering during the discovery and system design process. No system hardware or software should be purchased or requisitioned until the final system design document is complete.

## Hardware Requirements

Hardware requirements are affected by the specific Uptivity components used, the number of concurrent users in the system, the number of agents being recorded, the design of your telephony network, the average call volume and duration, and the length of time you wish to retain recordings.

Generally speaking, servers can be either physical or virtual. However, some recording integrations require physical servers; see the customer guide for your integration.

## ADDITIONAL CONSIDERATIONS

The following general guidelines apply to all Uptivity systems:

- 32-bit servers are no longer supported due to the requirements of supported operating systems, with one exception (see [Software Requirements](#)).
- Call recording, screen recording, and quality management can run on the same server. Depending on your contact center and IT architecture, multiple servers may be recommended.
- Uptivity supports virtual server(s) for most modules. Some recording integrations require a physical server.
- NICE recommends that servers have a minimum of 6 GB of RAM and a quad-core processor. Any server that hosts **RabbitMQ** must have at least 6 GB of RAM.

## Software Requirements

The following software environments have been tested with and are supported for system servers:

- **Operating System** – Windows Server 2008 R2/2012/2012 R2. Integration with Avaya using IP Office requires a recording server running a 32-bit Windows operating system. See the *Customer Guide to Avaya IP Office Integrations* for details.
- **Database** – Microsoft SQL Server 2012 SP1 (Enterprise, Standard, and Express editions). Microsoft SQL Server 2014 (Enterprise and Standard editions). Microsoft SQL 2016 (Enterprise and Standard editions).

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- **Web Server** – Microsoft Internet Information Services v7.0, 7.5, with ASP.NET 4.0 Extensions; v8.5 with ASP.NET 4.5 Extensions
- **Protocols** – IPv4

## Prerequisites

Uptivity requires a number of prerequisites to operate successfully. These prerequisites are installed by the Uptivity installation team, and include:

- .NET Framework v3.5, v4.0, v4.5.1, v4.5.2, and v4.6.1
- Several Microsoft Visual C++ Runtime components
- Microsoft PowerShell v2.0 or greater (for more detail on this software, see knowledge base article 968929 on Microsoft's support site)
- Windows Installer v4.5 or greater
- Microsoft Report Viewer Redistributable 2008, 2010, and 2012 (for more detail on this software, see knowledgebase article 971119 on Microsoft's support site)

## Licensing

Uptivity Sales Engineering explains licensing requirements during the sales process. If SSL is used in the network, a certificate file must be purchased from a third-party vendor (such as VeriSign). If your organization plans to use the HTML5 Interaction Player, your system administrator must bind the SSL certificate to the appropriate port on the Uptivity server. The default port is 5650; check with your Uptivity team to verify the port used in your deployment.

## PC Requirements

The following requirements apply to workstations using the NICE Uptivity Web Portal, the NICE Uptivity Performance Management portal, or both. The requirements also apply to workstations running On-Demand, NICE Uptivity Screen Recording,, Desktop Analytics, or Performance Management Ticker client applications.

## Software Requirements

Uptivity has been tested with and is supported for:

- **Operating Systems** – Windows 7, Windows 8.0 (8.1), and Windows 10
- **Web Browsers** – Internet Explorer v11, Microsoft Edge 38.14393.0.0 with Microsoft Edge HTML 14.14393, Firefox ESR 38 and ESR 45, and Google Chrome. Browser support varies depending on your chosen playback method and other factors.

Uptivity offers two options for recording search and playback. The **Call List** and **Web Player** (also known as the Silverlight Player) are supported in the following browsers: Internet Explorer and Firefox only. The **Interactions List** and **HTML5 Interaction Player** are supported in the following browsers: Microsoft Edge, Chrome, and Firefox only.

The Silverlight method must be used for customers with NICE Uptivity Screen Recording, with non-GSM audio codecs, or both. It is also still available for any customers who use only Internet Explorer, who need stereo or speed-adjusted playback (or both), or who need manual blackout capability.

**Note:**

The **HTML5 Recorded Interactions** list does not yet support speed-adjusted playback or manual blackouts.

Users who play call recordings, screen recordings, or both, and who use the Silverlight Player, also need:

- Microsoft Silverlight browser plug-in v5.0.61118.0 or higher

If your deployment includes Desktop Analytics, a proprietary client application must be installed on each PC used by recorded agents. This PC must also run:

- .NET Framework v4.5.2

If your deployment includes screen recording, a proprietary client application must be installed on each PC to be recorded. This PC must also run:

- .NET Framework v4.0 and .NET Framework v4.6.1

If your deployment includes On-Demand, a proprietary client application must be installed on each PC used agents with record-on-demand capability. This PC must also run:

- .NET Framework v2.0 (this version is not included by default with Windows 8.1 but can be enabled via the Windows Control Panel)

## Hardware Requirements

The minimum workstation specifications for users who simply view information in a web portal are:

- 2.0 GHz Processor
- 1 GB RAM
- 50 MB hard drive space
- 1280 X 800 (minimum screen resolution at 16-bit color depth)

Users who monitor calls, screen activity, or both; who perform quality evaluations; or who in general use the web portal more heavily will normally benefit from more powerful PCs. For these users, NICE recommends:

- 3Ghz or 1.6Ghz dual core
- 2 GB RAM
- 50 MB hard drive space
- 1280 X 1024 or higher screen resolution at 16-bit color depth

## Virtual Desktop Infrastructure (VDI) Support

Uptivity supports the following virtual desktop systems:

- Microsoft Terminal Services
- Citrix XenDesktop
- VMWare View

Uptivity does not support Citrix XenApp in application streaming mode for any applications. However, if the end-point launching the XenApp client is a Windows PC, the NICE Uptivity Screen Recording client will capture the streamed application windows *if* the client is running on the Windows PC itself.

**Note:**

VDI does not affect call recording.



## MAJOR CONSIDERATIONS

Each application instance in use will consume resources on the customer's VDI. The following table provides some general guidelines regarding resource usage for each Uptivity application or module; however, NICE strongly recommends testing needed resources by deploying desired applications and modules to a limited number of users and evaluating resource utilization in your specific environment.

| Uptivity Module                                    | Estimated Resource Usage  |
|--|---|
| NICE Uptivity Screen Recording Client              | RAM: 50-250MB, CPU: 1-5% per instance (highly dependent on screen resolution and activity)  |
| On-Demand Client                                   | RAM: 50MB, CPU: 0-2% per instance   |
| Web Player (browser-based Silverlight application) | RAM: 50-500MB, CPU: 1-10% per instance (highly dependent on number of records returned by user queries and size of audio/video files being played)  |
| Desktop Analytics Client                           | Resource usage can vary greatly depending on the type and number of applications being monitored, which scripts are being used, and so on. Requires testing in customer's environment to determine specifics. |

The Uptivity **Web Player** may play back data recorded in full HD (in other words, at resolutions greater than 1080p) and the size of the recordings may be significant.

Each VDI vendor has specific caveats and limitations regarding performance for media playback, and most have specific considerations for Silverlight-based media players, especially if the endpoint is a thin or zero client. Consult your vendor for specific information regarding your deployed products.

**Note:**

Microsoft offers a publicly-available Silverlight media player demo application you can use for initial performance testing. Visit Microsoft's [iis.net](http://iis.net) website and search for IIS Smooth Streaming.

## Environmental Requirements

### Server and firewall Ports

The following table lists the ports used by various services in Uptivity. Some ports are used by more than one service (for example, any service that communicates with SQL uses TCP port 1433). Depending on the system design created by your Uptivity Sales Engineer, these ports may need to be opened on system server(s) and network firewalls to allow communication between Uptivity modules and services.

For information on enhanced security features in Uptivity, see our online help at [Uptivity>Security](#).

Talk to your Uptivity installation team if you need to make adjustments due to port conflicts.

| Process    | Port | Transport | Direction | Description   |
|------------|------|-----------|-----------|---|
| API Server | 5620 | TCP       | Inbound   | Listener for connections and commands from internal (CTI Core, Web Media Server, On-Demand, etc.) and third-party clients (default)   |
|            | 5621 | TCP       | Inbound   | Listener for event notifications (such as call started, call stopped, and so forth) from internal (CTI Core, Web Media Server, On-Demand, etc.) and third-party clients (default) |
|            | 2012 | TCP       | Inbound   | Listener HTTP API Interface   |
|            | 1433 | TCP       | Outbound  | SQL Connection  |
| Archiver   | 445  | TCP       | Outbound  | CIFS file operations  |
|            | 1433 | TCP       | Outbound  | SQL Connection  |

|              |       |      |          |   |
|--------------|-------|------|----------|---|
| CTI Core     | 5685  | TCP  | Inbound  | Inter-core communication  |
|              | 5685  | TCP  | Outbound | Inter-core communication  |
|              | 445   | TCP  | Outbound | CIFS file operations  |
|              | 5630  | TCP  | Outbound | Communication/Streaming to Web Media Server                                   |
|              | 5633  | TCP  | Outbound | Control messages to Screen Capture Server                                     |
|              | 6620  | TCP  | Inbound  | API control message listener  |
|              | 1433  | TCP  | Outbound | SQL Connection  |
|              | 2013  | HTTP | Inbound  | Info Broker Listen Port   |
|              | xxx   | ?    | ?        | Integration Specific port usage (detailed in corresponding integration guide) |
| RabbitMQ     | 5672  | TCP  | Inbound  | Communication port for messaging using the RabbitMQ service bus               |
| Comet Daemon | 6505  | TCP  | Inbound  | Listens for service status from client loaders and Web Server                 |
|              | 6505  | TCP  | Outbound | Client loader status messages to master                                       |
|              | 1433  | TCP  | Outbound | SQL Connection  |
| Info Broker  | 50817 | TCP  | Inbound  | Used to communicate with Cores, Screen Capture Server                         |

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|                   |      |     |          |   |
|-------------------|------|-----|----------|---|
| Logger Service    | 5638 | TCP | Inbound  | Log message listener                            |
|                   | 162  | UDP | Outbound | SNMP Management messages                        |
|                   | 25   | TCP | Outbound | SMTP messages                                   |
|                   | 1433 | TCP | Outbound | SQL Connection                                  |
| Service Manager   | 1024 | TCP | Inbound  | Listens for authorization from the Web Portal   |
| Transcoder        | 445  | TCP | Outbound | CIFS file operations                            |
|                   | 1433 | TCP | Outbound | SQL Connection                                  |
| Web Media Service | 5630 | TCP | Inbound  | Control messages and a/v streams from CTI Cores |
|                   | 4510 | TCP | Inbound  | Connections from Silverlight client players     |
|                   | 1433 | TCP | Outbound | SQL Connection                                  |
|                   | 943  | TCP | Inbound  | Silverlight cross domain policy listener        |
|                   | 2015 | TCP | Inbound  | HTTP Listener                                   |
|                   | 445  | TCP | Outbound | CIFS file operations                            |
| WebSocket Server  | 5650 | TCP | Inbound  | HTML5 Interaction Player operations             |
| Speech Analytics  | 445  | TCP | Outbound | CIFS file operations                            |
|                   | 1433 | TCP | Outbound | SQL Connection                                  |

|                                      |             |            |          |   |
|--------------------------------------|-------------|------------|----------|---|
| Desktop Analytics Script Server      | 5634        | TCP        | Inbound  | Listens for connections from Desktop Analytics clients  |
| On-Demand                            | 2007        | TCP        | Inbound  | Listener for connections from On-Demand Clients   |
|                                      | 5620        | TCP        | Outbound | Connection to API Service for recording control and event messages  |
|                                      | 1433        | TCP        | Outbound | SQL Connection  |
| Screen Recording                     | 5633        | TCP        | Inbound  | Listener for Screen Recording (SR) Client connections and SR to CTI Core communication  |
|                                      | 445         | TCP        | Outbound | CIFS file operations  |
|                                      | 1433        | TCP        | Outbound | SQL Connection  |
|                                      | 2014        | TCP        | Inbound  | HTTP Listener   |
| NICE Uptivity Web Portal             | 80          | TCP        | Inbound  | HTTP services for NICE Uptivity Web Portal (default). If web-based On-Demand is also used, a second port will be required for its Web Portal (for example, 8080).   |
| NICE Uptivity Performance Management | 20010/30010 | HTTP/HTTPS | Inbound  | Required only for the <b>Ticker</b> feature. Used by the <b>Metrics Access</b> service to process requests from <b>Ticker</b> clients for data. These port numbers are configurable but these are the defaults and they are rarely changed. |

|                 |      |         |         |  |
|-----------------|------|---------|---------|--|
| Uptivity Survey | 5060 | UDP/TCP | Inbound | SIP trunk listener from customer PBX. The CTI Core module also uses port 5060. If Survey and Core are on the same server, Survey must be configured to use a different port. |
|-----------------|------|---------|---------|--|

## PC and Firewall Ports

The following table lists the ports used by client applications in Uptivity. Depending on the applications used in your implementation, these ports may need to be opened on user workstations and network firewalls to allow communication between system server(s) and end users. Talk to your Uptivity installation team if you need to make adjustments due to port conflicts.

| Process                               | Port | Transport | Direction          | Description  |
|---------------------------------------|------|-----------|--------------------|--|
| CometDaemon & Service Manager         | 6505 | TCP       | Inbound & Outbound | Allows administrator access to Service Manager from client systems and receives messages from CometDaemon. |
| Desktop Analytics Client              | 5620 | TCP       | Outbound           | Desktop Analytics client API connection for sending function calls   |
| On-Demand Client                      | 2007 | TCP       | Outbound           | Connection to On-Demand Server for recording control and event status messages                             |
| NICE Uptivity Screen Recording Client | 5633 | TCP       | Outbound           | Connection to Screen Recording Server for video streaming and status messages                              |
| Web Player                            | 4510 | TCP       | Outbound           | Connection to Web Media Server for playback  |
|                                       | 943  | TCP       | Outbound           | Connection to Web Media Server for policy file (Silverlight)   |

## Service Accounts

If your system topology includes multiple servers, a service account is required. This service account is typically a domain account that is used to run services and to share storage locations, facilitating cross-server communications. In practice, the disk locations where recorded voice files, screen files, or both, are to be stored is shared explicitly with the service account and the call recording and playback services are set to run using that account, allowing for read/write access to those locations.

The same service account can be used to run Uptivity reports using (SQL Server Reporting Services) in a multi-server environment. The account must have permission to access the server hosting the database that the SSRS reports use, as well as the server that hosts the SSRS reports (the .rdl files), if different.

The only permissions that the service account needs are those necessary to accomplish these tasks.

## 64-Bit Compatibility

Uptivity uses or integrates with a variety of third-party applications. This software is independently certified by any respective manufacturers in regard to 64-bit compatibility. Most manufacturers have minimum version requirements for compatibility.

To assist you in planning your implementation, NICE has compiled the following matrix to list known compatibility for third-party systems with Uptivity running on 64-bit Windows Server 2008 R2 or Windows Server 2012 R2. Only the integrations listed below have specific compatibility requirements. Those not listed are considered generally compatible at this time.

| Vendor     | Integration           | Software              | Compatibility  |
|------------|-----------------------|-----------------------|--|
| AudioCodes | DP/DT/LD/NGX          | SmartWORKS            | Requires version 5.4 or higher   |
| AudioCodes | DP/DT/LD/NGX          | SmartWORKS            | Windows 2012 requires version 5.9 or higher  |
| Avaya      | TSAPI                 | TSAPI Client 6.2      | Windows 2008 requires AES version 5.2 or later. Windows 2012 requires AES/TSAPI Client 6.3.3 or later. |
| CACE       | All VOIP Integrations | WinPcap library       | Requires version 4.1.2 or later  |
| Cisco      | TAPI-BiB              | TAPI Service Provider | Windows 2012 requires Cisco TSP Client v10.0 or later.   |

|          |                        |                        |   |
|----------|------------------------|------------------------|---|
| Cisco    | JTAPI-BiB              | JTAPI Service Provider | Not supported with Windows 2012.  |
| ShoreTel | TAPI-Wav and TAPI-VOIP | Remote Server Software | Windows 2008 requires ShoreTel version 11 or later. Windows 2012 R2 requires v14.2.19.42.8801.0 or later. |

## Antivirus Software

Antivirus exclusions should be configured in any system where antivirus scanning is installed. The guidelines below are provided to assist with ensuring the reliability and performance of your Uptivity system, while still providing for a secure environment. A lack of exclusions can cause system performance issues and possibly contribute to service outages.

These guidelines apply to both memory resident and on-demand scanning.

### GENERAL CONSIDERATIONS

These exclusion guidelines are product-specific. For applications not specifically listed, it is often necessary to determine exclusions on a case-by-case basis. This section provides guidance in this area.

Files should typically be excluded based on the following criteria:

- **Locked Files** – The files are permanently locked open by a legitimate server process. Examples of these are databases such as DHCP and SQL Server, as well as files such as the Windows Pagefile.
- **Large Files** – The files are manipulated often by a legitimate server process and are typically large in size. Examples of these are copying CD/DVD images (.iso) and Virtual Machine Files (.vhd). In addition, operations may include offline maintenance on Virtual Machine Files and Exchange Server databases.
- **Temporary Files** – A large number of temporary files are written to disk by a legitimate server process.

### EXCLUSION GUIDELINES

The table below lists the recommended exclusions for each Uptivity service or application. Any paths or ports shown in this document are the installation defaults only. Actual paths or ports may vary depending on configuration options set during installation.

| Service/Application | Process | File, Extension, or TCP/IP Port | Default Folder |
|---------------------|---------|---------------------------------|----------------|
|---------------------|---------|---------------------------------|----------------|



|                                |                          |  |                                 |
|--------------------------------|--------------------------|--|---------------------------------|
| Logger                         | cc_log-gerservice.exe    | *.log  | C:\Program Files\CallCopy\Logs\ |
| CTI Core                       | cc_cticore.exe           | *.cca, *.wav, *.vox, *.vox8, *.xml               | C:\default_rec                  |
| Transcoder                     | cc_Transcoder.exe        | *.cca, *.vid, *.wav, *.vox, *.vox8, *.csa, *.ccp | C:\temp\Transcoder-temp         |
| Uptivity Speech Analytics      | cc_analytics.exe         | *.wav, *.idx                                     |                                 |
| NICE Uptivity Screen Recording | cc_screen-capservice.exe | *.vid  | C:\temp\                        |

## COMMON FILE TYPES

Most antivirus products attempt to remove or quarantine file types that they cannot identify. The table below lists many of the common file types associated with Uptivity.

| File Type | Description   |
|-----------|---|
| .cav      | Uptivity Proprietary combined audio/video format generated only when a file is exported. Requires a special player to view.   |
| .cca      | Raw recorded audio that has not yet been transcoded; typically deleted after transcoding and compressed into .wav.  |
| .ccp      | Waveform that accompanies playback in the Web Player. Does NOT contain bookmarks – those are inserted at time of playback via stored database records. Black-outs are represented in the waveform as flat segments with no audio present. |
| .csa      | Uptivity stereo audio; lowest file size of the supported audio formats.   |
| .idx      | <b>Uptivity Speech Analytics only:</b> phonetic index of the recorded call created and used by the analytics engine. This is an Aurix proprietary format.   |

|       |   |
|-------|---|
| .log  | Log files where system activities and errors are recorded. Useful in troubleshooting system issues.                   |
| .vid  | Screen capture data for playback.   |
| .vox  | Compressed audio format for playback. Higher quality than .wav, but also larger file size. Primarily a legacy format. |
| .vox8 | Compressed audio format for playback. Higher quality than .wav, but also larger file size. Primarily a legacy format. |
| .wav  | Compressed audio format for playback.   |
| .xml  | Used to store call metadata or API responses to clients.  |