

# Eocortex ULTRA

## Technical specifications

Feature	Description
<b>Technical specifications</b>	
Operation systems	Windows 7 SP1 / 8 / 8.1 / 10 / Server 2008 R2 SP1 / Server 2012 / Server 2012 R2 (x86 и x64) Windows Embedded (for Intel x86 and x64 platforms, with full functionality of Windows versions indicated above)
Quantity of servers in system	Unlimited
<b>Integration with external software and devices</b>	
Quantity of IP cameras per 1 server	Up to 479
Quantity of remote workplaces (RWP)	Unlimited
Supported IP cameras, IP video servers and IP video recorders	More than 3000 models of more than 100 manufacturers
Supported standards	ONVIF (Profile S), PSIA (ver. 1.2), RTSP
IPv6 support	Connection of cameras with IPv6 addresses, including automatic search for such cameras in network
Support of video recorders, video servers, and video decoders	<ul style="list-style-type: none"><li>– Capability to view video stream in real time and record video and audio to archive from digital and analog cameras connected to video decoders, video recorders and video servers; support of PTZ functionality of such cameras</li><li>– Capability to view video recorder archive (devices shall be capable of sending data in MJPEG, MPEG-4, or H.264 formats; support is implemented for limited number of device models)</li></ul>
<b>Working with cameras</b>	
Camera signal input support	Registration of signals sent to signal inputs of IP video cameras
Image resolution	Restricted only by IP camera capability
Frame rate	Restricted only by IP camera capability
MultiDome support *	Support of MultiDome function implemented in some cameras
AreaZoom support *	Support of AreaZoom function implemented in some cameras
Panoramic camera support	Support of various modes implemented in panoramic cameras
Pluggable driver pack for cameras and devices (DriverPack)	Ensures backward compatibility of camera and device drivers
<b>Working with video streams</b>	
Formats of supported video streams	MJPEG, MPEG-4, H.264, H.265
H.264 video stream decoding by video card	H.264 video stream decoding by video card is implemented for viewing. It allows to reduce central processor load when visualizing. DXVA technology is used

Feature	Description
Video stream buffering	Increases visualization smoothness due to frame buffering
Video stream proxying *	Possibility to use one of the servers for broadcasting video streams from other servers to separate RWPs
Broadcasting to cloud	Ability to broadcast video streams to a cloud based on Eocortex Cloud
Multicast broadcasting	Ability to perform multicast broadcasting of separate channels by the server
<b>Working with audio servers</b>	
Receiving audio *	Broadcasting and recording to archive of IP camera audio streams
Supported audio stream formats	PCM, G.711U, G.711A, G.722.1, G.726, G.729A, GSM-AMR, AAC
Duplex audio mode	Broadcasting audio from operator's workplace to the loudspeaker or audio output of the camera
IP audio encoder support	Recording to archive and real-time listening of separate audio channels (today, only Echolot digital audio recording system is supported)
<b>Functionality for operator</b>	
Real-time viewing	<ul style="list-style-type: none"> <li>– Viewing directly on video surveillance server</li> <li>– Viewing from RWP by connecting to video surveillance server</li> <li>– Viewing from RWP by connecting directly to IP camera</li> </ul>
Web interface	Possibility to view real-time and archived video in any browser with Silverlight support
Mobile client	Possibility to view archived and real-time video on iOS, Android, Windows Phone devices. In iOS and Android, audio broadcasting and PTZ camera control are implemented
Video wall	Possibility to build a video wall of several displays without having to use additional devices or applications
Software motion detector	Allows in-frame motion detection and setting several detection zones and limiting the size of objects to be detected independently for each zone; changeable detection speed
User scenarios	Possibility to adjust system response to various events: recording to archive control, sending e-mail and SMS notifications, transmitting signals to camera inputs, launching external applications, etc.
Site plans support	<ul style="list-style-type: none"> <li>– Visualization of 2D site plans</li> <li>– Visualization of cameras, sensors, and relays on site plans</li> <li>– Binding external sensors to signal inputs of cameras</li> <li>– Binding external devices to signal outputs of cameras</li> <li>– Visualization of camera zone of view</li> <li>– Visualization of separate intelligent module data on zones of view of the cameras</li> </ul>
Support of Push notifications	Possibility of sending Push notifications to mobile devices by scenarios in response to system and user events (at the moment, the feature is implemented for devices using iOS 8 and later)
System and alarm event log	Review of system and alarm logs, including missed alarms
Chat	Possibility to exchange messages between operators
PTZ camera control *	Controlling PTZ cameras using client interface: turning, zooming in/out (optical zoom), focus control
Toggling between presets *	Toggling between presets of PTZ camera
Automatic patrolling (rounds) *	Creating own rounds (preset toggling routes)
Automatic camera search	Possibility to automatically search for ONVIF or UPnP-supporting cameras in local network
Assignment of camera IP addresses	Possibility to assign camera IP addresses directly from Eocortex (no need to connect to camera web interfaces)

Feature	Description
Camera network port assignment	Possibility to assign camera network ports (when cameras use non-standard video stream transmission ports)
Camera diagnostics *	Camera diagnostics from Configurator in order to identify issues with connecting and functioning of the cameras
Automatic zoom feature	Displaying separate zoomed-in area with moving objects
Fisheye dewarping *	Dewarps video from fisheye cameras in three modes: all-round panorama, PTZ camera imitation mode, 4x90 mode. Dewarping can be performed both in real time and during video archive playback
<b>Image handling</b>	
Screen profiles	Possibility to setup individual screen profiles which show a certain set of cameras in multiscreen mode
Automatic change of screen profiles	Possibility to automatically change screen profiles on a monitor
Support of two streams from IP cameras	<ul style="list-style-type: none"> <li>– Visualization in multiscreen mode: low definition stream (by default) or high definition stream (adjustable)</li> <li>– Visualization in full-screen mode: high definition stream (by default) or low definition stream (adjustable)</li> </ul>
Support of several monitors on single remote workplace (RWP)	Limited only by RWP video subsystem capabilities
Support of alarm monitor and alarm cells	Using one of the monitors as an alarm monitor for displaying images from the armed channels when alarm events appear on these channels. Possibility to automatically exclude a channel from the grid after expiration of a set period of time from the moment of alarm appearance. Possibility to show alarms only on alarm monitor. Possibility to assign part of the cells on a “regular” monitor to show channels on which an alarm event happened
Frame export	Saving a frame and blown up frame fragment in JPEG, PNG, BMP formats; printing frame/frame fragment
<b>Archive handling</b>	
Archive recording modes	Continuous; by operator’s command; by motion detection sensor action; by Eocortex software detector action; by schedule (with a possibility to combine recording modes); by system event / scenario
Format of frame storage in archive	Format received from IP camera
Archive depth	There is a possibility to set various archive depths for individual cameras or camera groups
Archive viewing modes	Viewing of archive on a separate channel; simultaneous viewing of archive on several channels; reverse playback
Archive playback speed	From frame-by-frame viewing to x120 speed playback
Support of two streams of IP camera	Recording to archive: high definition stream (by default) or low definition stream (adjustable)
Video fragment export	To AVI format; to Eocortex proprietary format. Archive export by various channels (with possibility to watch exported fragments using a special utility application)
Digital zoom	Zooming in an image fragment in real time and while watching an archive
Access to archive on SD card	Access to archive on camera SD card, including: simultaneous viewing of archive from SD cards of various cameras; synchronization of video server archive with SD card (for example, if camera worked off-line for some time, without connection to server)

Feature	Description
Archive bookmarks *	Creation of bookmarks in archive, indicating name, description, category, and importance; search and filtering of the created bookmarks by time and date, cameras, and other parameters
Archive replication *	Automatic replication (duplication) of archive to a special replication server
Archive depth report	Possibility to create a report on archive depth of each camera. Visualization of archive presence by day
Archive duplication (backup)	Simultaneous recording of video archive to main and backup disks
Decimation of archive while recording	Allows to perform recording to archive with lower frequency than in the original video being transmitted by camera; individual camera adjustment is available
Time-based decimation of archive	Allows to reduce the number of frames in archive upon expiration of a preset period of time. Two-stage setup of archive decimation and individual camera adjustment are available
<b>Functionality for system administrator</b>	
Integration with Active Directory	Support of authorization with Active Directory accounts
Access rights differentiation	Differentiation of user access rights for individual functions and cameras
Version compatibility	Interaction of client software with server software of other versions (different from the client software version)
Automatic update of client software	Automatic update of client software upon connection to server (adjustable)
Centralized update of server software	Update from server software configurator for servers united in one system
Monitoring	Allows to monitor system component condition: <ul style="list-style-type: none"> <li>– Host availability (computers or virtual machines with Eocortex servers installed)</li> <li>– Load rates of central processors, random access memory, and host network adapters</li> <li>– Camera availability</li> <li>– Condition of recording to archive subsystems</li> <li>– Client connections to servers</li> </ul>
Self-diagnostics	Self-diagnostics, informing user about problems with subsystems, recommendations for their rectification
Server redundancy *	Hot redundancy of servers: in case of failure of one of the servers, archive recording and real-time video broadcasting from its cameras are performed by other servers
Automatic data base redundancy	Automatic creation of backup copies of data base and its automatic recovery in case of failures
Automatic data base recovery	Automatic diagnostics and recovery of event data base and video archive

\* - It is required to purchase additional licenses to use the indicated features