OPC SYSTEM MANAGEMENT

STENTOFON

FEATURES

- Standards based on integration with OPC and Microsoft .Net
- True interoperability and scalability with OPC and Microsoft .Net
- Reduce implementation time and cost of system integration
- Easy and fast configuration, only limited configuration data is required

DESCRIPTION

OPC is an open standards specification which gives a consistent method of accessing data from to controlling system connected hardware. Hardware, such as the AlphaCom E exchange, presents information about the capabilities and status of its connected intercom stations in a defined manner to any OPC based system management software package. This consistency means that there is no need to write specific interface protocol software for each combination of hardware and management software. Especially in projects where the management software needs to control more than just the intercom exchange this is an enormous saving in cost and time. The AlphaCom E exchange communicates to the management system that it can report different statuses of its intercom stations as detailed further on. Furthermore it lets the management software know that it can accept commands such as calling, cancelling of calls, and many more. A typical application is a large building with an AlphaCom E intercom exchange, CCTV, intruder alarm, fire alarm and access control, all connected to an OPC based management system. The guards receive information from all these different systems in a recognizable and consistent way which allows for easy operation of the total system.

SPECIFICATION

Supported Operating Systems	Microsoft Windows 2000 Microsoft Windows XP and XP-64 Microsoft Windows Server 2003 and 2003 X64 Microsoft Windows Vista and Vista-64
Software dependency	Microsoft .NET 2.0 can be downloaded from www.microsoft.com
Communication with AlphaCom E	TCP/IP via TCP port 61112
Server registration name	Zenitel.AlphaCom.1
Applicable OPC standards	OPC DA V2 (OPC Data Access) OPC DA V3 (OPC Data Access) OPC AE V1.1 (OPC Alarms & Events)
Event string format	OneLine: Single line human readable format containing relevant information Detailed: Multi line human readable with detailed information Short: Human readable format containing minimum required information XML: Same as Detailed, but in XML format XMLPretty: Same as Detailed, but in line formatted XML Custom: The event strings can be customised to suit the exact requirement
Minimum hardware requirement	Internal memory: 2GByte Hard disk space: 1 GByte, which includes the memory requirement for the .NET Framework

CONFIGURATION

The STENTOFON OPC server is a self configuring software package, which needs only very little information during commissioning; only the node numbers of the AlphaCom exchanges which are present in the system and the IP-address of the connected AlphaCom need to be entered, all other information will automatically be extracted by the OPC server. The OPC Server will at start-up ask all AlphaCom exchanges in an AlphaNet it knows about for a list of all Stations with their current status. The Server will build an OPC item tree for these stations. The access path for a specific station will be a node number and directory number. Each station will have multiple items defining different properties of that station. If a DA-Client application is set-up with one or more master stations, these should be added to a 'Master Station List'. The Client can then use the unique ID from the list to refer to a Master station. Each exchange in the AlphaNet must have its own OPC licenses. An exchange will only report as many stations to the OPC server as determined by the license in that exchange, see Ordering Information. For OPC AE all AlphaCom Events for a station can be individually configured.

OPERATION

The OPC server software runs on a PC. For proper operation, Microsoft .NET 2.0 must also be installed on this PC. In an AlphaNet configuration, only 1 AlphaCom E needs to be specified with which the OPC server will communicate, although, via AlphaNet, the server will communicate with all exchanges in the network. The exchange which is specified to communicate directly with the OPC server must have TCP port 61112 opened in the 'Filter page' in AlphaWeb.

OPC ALARM AND EVENTS

A set of AlphaCom events can be sources for OPC AE Events.

CallStatus	A Call Initiated from Station A to Station B, with time, priority, and call mode
StationConnect	A Call connection with connection time and reference
StationDisconnect	A call disconnection with time, reference and duration
CallReject	The Call was not accepted (Disconnect without a Connect) with time
CallRequest	A Call Request with Receiving Station, Sending Station, mail tag, priority, mail text and time
RequestRemoved	A Call Request Removed with Receiving Station, and mail tag
StationOK	Station Up and OK with station type details. (sent when a station with failure is back up)
StationFail	Station Failure with details
	For each of the above AlphaCom event sources it is possible to configure OPC AE parameters as detailed in the table below.
Source Name	A string with the event source name. This will be appended to the access path of the station. Example: node1.station1.{sourcename} The same sourcename can be used for multiple AlphaCom events, but then they need to be of the same type. Typically the same name will be used for two condition events with the Alarm/Normal state.
Severity	The Event severity in the range 1..1000.
Message Text	A Set of pre-defined formats or a custom format with possible parameter insertion.

ORDER NUMBER

100964990x

SUPPORTED OPC DATA ACCESS OBJECTS

Objects for each station connected to a node			
acenodenr.stationdirnr.busy	UI	RO	Station Busy state: 0 = Free, 1 = Busy
acenodenr.stationdirnr.mailqueue	UI	RO	Station mail queue state: 0 = no mail, 1 = mail queue
acenodenr.stationdirnr.linestate	UI	RO	Line State: 0 = Board not present 1 = SLI board present, no station 2 = SLI board present, station with failure 3 = Station connected to SLI board 16 = IP station configured, not connected 17 = IP station connected but not authorized 18 = IP station connected and registered OK, authorization not required 19 = IP station connected and authorized 20 = IP station connected but no license available
acenodenr.stationdirnr.operational	UI	RO	1 = The station is operational 0 = The station is not operational
acenodenr.stationdirnr.phyno	UI	RO	Station Physical number.
acenodenr.stationdirnr.text	BSTR	RO	Station display text, max. 16 characters.
acenodenr.stationdirnr.rco (This data object is only available for IP stations with 3 RCO's)	UI	RW	Station RCO bitmap: 1: RCO 1, 0 = off, 1 = on 2: RCO 2, 0 = off, 1 = on 3: RCO 3, 0 = off, 1 = on
acenodenr.stationdirnr.relatedto	BSTR	RW	Related station in connection. A digit string representing the directory number of a connected station. Only set if the station is in active connection. Writing a valid directory number to this item will set up a call between the stations. The format of the station reference is the OPC access path of the related station. Example: node1.station101. An AlphaCom Station reference format is also accepted for local and global numbers. Example: L(1)101 G2000. Writing the string "null" to this item will cancel the call.
acenodenr.stationdirnr.alarmmsg	UI	RW	Set up (or disconnect) an ASVP Alarm message to a single station. Reads back last written value, or default value if not written to.
acenodenr.stationdirnr.signalled	UI	RO	Set to true for signaling to the client that the station needs some kind of attention. An AlphaCom call request sent from this station triggers this state. When the call request is removed this state will be reset.
acenodenr.stationdirnr.connect	UI	RW	Used to connect to this station from a pre-configured "Master station". A list of master stations can be programmed and referenced to by its unique ID (1-100). Writing a '0' will cancel the active connection.
acenodenr.stationdirnr.synchronized	UI	RW	If this variable reads a '1' the station information, and the stations call request queue should be in sync with the AlphaCom. If the event based synchronization is not trusted, it is possible to write a '0' to the "synchronized" item. All states and queue for this station will then be refreshed from the AlphaCom.
acenodenr.stationdirnr.cr_queue_length	UI	RO	The length of this stations Call Request Queue.
acenodenr.stationdirnr.cr_iterate_station	BSTR	RO	The ID (OPC station tag format) of the active station during a iteration process.
acenodenr.stationdirnr.cr_iterate_command	BSTR	RW	"First" gets the first station in queue to tag cr_iterate_station. "Next" gets the next station in the queue. If there are no more stations after a "Next", cr_iterate_station is set to "eol".
acenodenr.stationdirnr.cr_delete_command	BSTR	RW	If a valid station ID is written to this tag and it exist in the queue list a $DELETE_MAIL is sent to the AlphaCom.
Objects for each node			
acenodenr.stationsadded	UI	RO	1 = Stations has been successfully added 0 = No stations added, probably no license or some other error.
acenodenr.addedmessage	BSTR	RO	A detailed status on the station add process.
acenodenr.numberofstations	UI	RO	The number of stations added to this node tag tree.
acenodenr.stationlicensecount	UI	RO	The number of stations licensed for this node.
Global AlphaCom objects			
AlphaGobal.Masters.NN	BSTR	RO	A list of the configured Master stations. When using the 'nodeXX.stationYY.connect' item listed above the numeric ID from this list has to used.

ORDER NUMBER	DESCRIPTION	SHIP WEIGHT
	Each AlphaCom exchange in an AlphaNet must have its own OPC licenses.	
1009649901	OPC interface supporting 40 stations	
1009649902	OPC interface supporting 80 stations	
1009649903	OPC interface supporting 160 stations	
1009649904	OPC interface supporting 240 stations	
1009649905	OPC interface supporting 320 stations	
1009649906	OPC interface supporting 400 stations	
1009649907	OPC interface supporting 552 stations	

OPC SYSTEM MANAGEMENT

Global OPC server objects			
AlphaComOPCServer.TCPConnected	UI	RO	True if the connection with the AlphaCom is established.
AlphaComOPCServer.AlphaIPAddress	BSTR	RO	The IP address of the connected AlphaCom.
AlphaComOPCServer.AlphaTCPPort	UI	RO	The port of the IP connection.
AlphaComOPCServer.PingTime	UI	RO	The application-level Ping time in milliseconds (monitored each 5th second).
AlphaComOPCServer.NumberOfNodes	UI	RO	Number of AlphaCom nodes the OPC Server is registered with.
AlphaComOPCServer.NumberOfStations	UI	RO	The total number of stations registered by the OPC Server.