CheckMate is a rich-featured software platform which delivers high value functionality to the contact center and offers unparalleled flexibility to support complex contact center needs. The solution helps managers improve operational performance and achieve strategic targets for their Collections, Telemarketing, Customer Service and other business processes. In fact, CheckMate is an opportunity for the contact center to balance consumer demands against bottom line realities and top line objectives and deliver added value service to the customers.

CheckMate includes the modules: Agent Quality, Recording, Campaign Management, Monitoring and Management, Datamart, Floor Plan, Broadcasting Center, CC Accelerators (Dynamic Exclusions, Call–Back, RT statistics) CheckMate Collections and Aspect CRM Connectors. The platform is natively integrated with the Aspect Software Contact Center platform Aspect Unified IP and the powerful Unified Communications solution Microsoft Lync.
Agent Quality

Agent Quality facilitates many managerial tasks, because it unifies all disparate scores to a well-managed and unified work environment. Organizations can use gravity coefficients according to the factors that are important to their strategy, vision and objectives. Thus CheckMate provides the baseline for productivity improvements besides the basic recording functionality.

- **Evaluate and motivate agents to improve their performance**
  Agent Quality enhances the agent devotion to business rules and helps them become more efficient. The recorded interactions can be used as an example in order to coach and train the agents to increase customer satisfaction. Supervisors can easily manage the workforce resources according to the needs of each campaign by measuring and evaluating agent performance accurately and consistently.

  Balanced Scorecard is a performance management tool which provides a holistic view of the enterprise by focusing on financial, operational, marketing and developmental inputs. The great advantage of the Balanced Scorecard is that the users can define the criteria they are interested in and customize them according to their needs.

  CheckMate collects data, metrics and recordings from all systems and sites, from CRM, Excel Worksheets and databases, providing contact centers with a centralized, fully integrated data warehouse. The platform enables managers to establish performance criteria to effectively evaluate, analyze and maintain agent progress, ensuring that quality management tasks are completed and verified. CheckMate uses a variety of easy-to-use scoring and navigation features to make the process of completing evaluations simple. The manager can define the criteria of scoring, for instance he may use indicators focused on workforce management or schedule compliance.

  Agent Quality also includes in-depth reporting capabilities, so that staffing related data can be quickly communicated throughout the organization for improved strategic decision making. Supervisors can view performance details, summaries, in an array of standard and customizable reports to identify agent skill gaps, uncover reasons for performance shortfalls, provide targeted coaching and manage process inefficiencies.

- **Reduce Administration Costs**
  The use of Key Performance Indicators (KPIs) provides increased performance visibility using data from intra-day performance, agent productivity, type and call result. Supervisors can customize built-in indicators, create additional indicators and check whether performance is above, up to par, or below targets set by managers and identify agents or work groups that are most or least productive. The end result is reduced cost for agents, supervisors, business analysts, administrators and executives, as well as increased revenue opportunities and streamlined workforce management.

KPIs are generated from the collection of different sources data, such as CRM, ACD, dialer data, IVR, etc. It is a very useful tool for the manager of the contact center because it gives access to real productivity data, like termination codes and wrap up data. These indicators contain efficiency and effectiveness measures, so the manager has the necessary information to check at regular intervals and enhance agent performance as well as to initiate actions for improvement. Agent Quality also enables users to create ad hoc queries and reports (through the embedded Report Builder) so that analysis can be personalized to their needs and interests.
Training the staff
An effective call center should set specific goals to improve agent productivity in order to deliver enhanced value to its customers. The challenge is not only to attract but to retain and develop skilled employees and an effective means to keep up with this target is continuous assessment and training. A successful call center should have a workforce composed of the right number and type of agent skills.
Recording

CheckMate Recording captures and stores voice communications in a database. Supervisors can use a search engine with attributes such as call results, campaign, agent, time or department and many other criteria, in order to locate recorded communications.

The solution can strengthen the image of the company by enhancing calling strategies because the agent performance can be analyzed through recording playback and thus improve contact center’s quality of services.

Managers can listen each interaction handled by the agent and ensure service quality by conducting random tests. Motivated agents are one of the first steps to a successful customer experience. Furthermore, recordings can be used to cover all compliance issues. As a result, agents are easily evaluated, a function that leads to improvement.

CheckMate Recording includes four primary components:

- **Recording Engine**
  The Recording engine cooperates with the Aspect Unified IP Core Server which is responsible for making all routing decisions and instructing the DCP/TA to record calls based on rules established within CheckMate Recording Manager. The CheckMate Recording system is fully compatible with UIP on demand recording feature. Any request for recording from the Agent application is automatically captured by the CheckMate System.

- **Physical Recording Files**
  The DCP/TA captures the voice recording. Based on instructions from the Recording engine, the DCP/TA records the call and temporary stores the recording on their local server, Telephony Adapter. System administrators utilize the CheckMate Recording Manager to establish tasks to move the recordings from these temporary locations to the long term storage which is traditionally a recording server with an attached SAN (Primary CheckMate Recording Server). Also, the recording files can be encrypted (with AES 256 algorithm). To provide authenticity and integrity the CheckMate Recording System allows the use of PKI infrastructure to provide digital signatures on documents.

  A Secondary CheckMate Recording Server can be used to achieve high availability architecture. The Primary Server sends the recording files to the Secondary Server through scheduled FTP service. Since the FTP service is enabled the recordings can be stored either on both servers (primary and secondary) or only to secondary, according to the system configuration.

- **Recording Database**
  The recording database contains meta-data received from the Aspect Unified IP Core server on each recording. This data is used to assist the supervisor when searching from CheckMate Manager to find a recording.

- **CheckMate Recording Manager**
  CheckMate Recording Manager establishes the rules on which the Core Server decides when and if a call must be recorded or not. It also allows the setting - up of queries to search for recordings for playback, export, or score. CheckMate Recording Manager opens up a series of tabs that allows users to set specific search parameters in order to narrow down searching. Multiple filter criteria supported, based on agent, system or customer information, including the user ID, extension, customer phone number, customer basic data (Surname, First Name, ID, etc.) date. Due to tight integration with Aspect Unified IP, CheckMate can be configured in order a user can search any field which is located to database of Aspect Unified IP.

CheckMate Automated Voice Recording General Features

The CheckMate recording system offers flexible storage capabilities since recording files can be stored to local disks, to a SAN a network path, FTP servers or removable media. The module also offers the possibility to export recording files in different file formats.

Due to tight integration all the recordings are made by the telephony hardware of the Aspect Unified IP system. Therefore any error occurring during recordings is captured and alerts can be configured. The alerting system can be visual on the screen, audible with a phone call or can be sent via email.
CheckMate supports user roles for every function of the system. Different roles can be setup and assigned to one or more users. Access Rights of each user can be different per service or agent to make sure everyone can access only data he is allowed to.

CheckMate offers an API for broadcasting messages to all users, can be integrated to any 3rd party application. CheckMate offers a web based interface allowing remote configuration and playback. Also CheckMate offers an API which is used for the tagging of “threat calls”.

- **Advanced playback control**
  CheckMate advanced playback control has unique characteristics like:
  - Play, Resume, Stop and Pause buttons
  - Voice speed control (from 0.4x to 2.6x)
  - Volume control
  - Audio waveform
  - Playback starting position
  - Tagging
  - Exporting to various file format
Campaign Management

Campaign Management is a customer interaction data warehouse (CIDW) and centralized contact list manager used to develop, deploy and analyze sophisticated contact strategies to significantly optimize sales and collections productivity and results. It is a fully customizable module that helps improve overall contact center productivity. Campaign Management creates enterprise level contact strategies hosted on a single server, connecting to one or more Unified IP systems, contact centers and host systems. This module works with various dialers and feeds dialing records, based on the overall campaign strategies, while recording and storing each prospect or customer transaction.

Campaign Management features and benefits:
• Centralizes list and campaign management
• Provides a higher level of control and visibility of operations
• Improves campaign effectiveness
• Allows the execution of enterprise-wide campaign strategies with minimal manual processes
• Allows load balance across multiple dialers
• Allows the automation of repetitive administrative tasks including consolidation of customer profile data, having one place for campaign strategies, account cross-reference, enterprise reporting and interaction with host systems and workflow related items.
• Allows for simplified expansion capabilities
• Reduces administrative time for import, export, project set up, campaign management and reporting
• Minimizes idle or down times with business continuity insurance
• Abides by compliance policies through sophisticated campaign management and list checking capabilities
Datamart

CheckMate Datamart consolidates data from multiple and heterogeneous sources, that are transformed to a standard data definition and data type schema and finally stored in a common and consistent format. CheckMate Datamart produces improvement data quality and integrity. The implementation of common and consistent data definition, the scheduled data update cycles, has as a result the consistency across different business functional areas. The CheckMate Datamart has been designed to provide an open architecture that can be extended using industry-standard technology.

It simplifies the design and the implementation, based on:
- Open architecture that is integrated with third-party solutions,
- Heterogeneous data import, export, validation and cleansing services,
- Management services for automation, scheduling, performance monitoring, alerting and notifications services.

The CheckMate Reporting Module is a web-based reporting application that generates scheduled and on-demand reports that can be accessed online or automatically e-mailed to the subscribed users.
Floor Plan

Floor Plan is a graphically enhanced administration module providing two dimensional presentation abilities with real time monitoring and administration of agent workstations inside the organization. The representation model provides a hierarchical organizational structure consisting of business units, locations, floors, zones and workstations. A user friendly floor or zone graphic designer is incorporated to the module, administrating realistic workstation placement representations for each business unit.

Floor Plan, besides the visual tools and presentation abilities, is mainly a powerful monitoring tool. On the designed floors or zones real time statistics and agent states are displayed through redundant middleware services providing integration with the Aspect Unified IP Systems.

Using a client-side sub module, the administrators may, also, perform real time requests for system event logs and screen captures or get instantly notified about application failures on every workstation.

Floor Plan allows the administrator to have a graphical presentation of the basic units of an organization, as well as to monitor and manage organization resources in real time. The administration is performed through integration and information flow among CheckMate servers, Aspect Unified IP servers and workstations. The graphical presentation is based on a hierarchical structure, which is analyzed below.

Graphical presentation

Organization description
The hierarchical presentation for the description of an organization includes the following units starting from the widest.

Organization: The primary unit of the graphical presentation that includes all the functional units of the organization that is being analyzed.

Location: the organization premises. It is used for the geographical segregation of an organization premises.

Floor: Each location is separated in floors (if necessary) for the easier detection of functional units.

Zone: The basic business unit of the organization. In this level the physical shape zone and the physical workstation location that the zone includes can be depicted.

Workstation: Workstations are included in zones and are the bottom line in the organization analysis. The data that are gathered from the workstations are used in the assessment reports of the higher levels.

Graphical interface
The system graphical interface does not require a specific application installed and is accessible via multiple browsers; however, Silverlight 5.0 installation is required. The architecture is a combination of tree depiction of all business units and of physical presentation of zones and workstations. In the following picture there is a screen with a zone in development. The zone includes four independent locations with twelve workstations, one of them is selected.
In the picture above the following must be noted:

- Search based on the name of the user workstation.
- The supervisor can see the workstation status via icons.
- Real time flow and information depiction for each workstation zone.

**Zone configuration**

The zone configuration, as well as the work stations placement, are depicted in the following picture. During the zone processing, the user has the ability to insert “non-accessible areas” (grey color areas) in order to change their size and to change their location. Thereby, the majority of the constructive data that constitute a zone (terraces, doors) can be depicted. Following this, the user can insert workstations and place them in tailor-made areas.

In order to identify the workstations the user has to insert the exact name in the domain (FQDN) of the computer station as long as the extension of the station. The user can decide according to his needs if he will first configure the zone and then locate the stations. The system, before the zone is configured, checks if there is any zone or “non accessible areas” overlap. All tasks, except the insertion of the name that identifies the workstation, can be done by dragging and dropping objects to the screen.
**Workstations**
Workstations in presentation and processing screens, except from the data that are inserted during the zone configuration, include the following data that are in real time updated.
- The name of the user that is logged in the workstation
- Total time the user is logged in
- User status in the contact center
- How long does the user have the current status
- The cause for the user’s current status
- Number of calls (inbound and outbound)
- Total idle time
- Total time that the agent is not available.

**Workstation management Reports**
The real time data of the workstations are depicted in total for each organization unit, either numerically or graphically. In each level of the hierarchical depiction of the organization, the user can extract and use these data. In the following pictures there are graph reports for a zone.

![Graph reports for a zone](image)
Administration functions
The depiction and administration sub-system, beside the main screens, includes an application that runs and remains active in every single workstation. This application gathers data from each workstation that are available to the administrator when needed. The workstation administration is configured with the graphic depiction of the zone workstation and with the use of the peripheral application that is active in each workstation. The administrator can also perform the following actions:

Monitoring of a workstation’s status
This action can be performed with icons in the zone graphical depiction. The status can be one of the following:
- Error in the peripheral application
- Error listed in the event log workstation
- A warning listed in the event log workstation

View of a screen workstation
The administrator has the ability to ask for a copy in picture format of the workstation in real time.

Event log recovery
The administrator can recover and format the event log of the workstation operating system as long as to diagnose errors.

Log files recovery
The administrator can recover and format log files of specific workstations applications and he can also diagnose errors.

Remote desktop connection
The administrator can be connected remotely to the workstation desktop in order to support or to resolve issues without the need of physical presence.
**Broadcasting Center**

**Broadcasting Center** is a powerful, real time data presentation module providing intuitive and fully customizable dashboard and workstation data views commissioning.

The module is enhanced with out of the box integration with the Aspect Unified IP systems but is, also, capable for transmitting to subscribed customers real time data from any source.

Broadcasting Center includes a wide variety of customizable visual elements for data presentation and a pixel based designer, facilitating easy creation and modification of complicated, dynamic data views addressed to workstations or dashboards. Moreover, aggregation functions on streaming data are supported for even better metrics evaluation. Charts, gauges, scrolling texts, images and web pages are some of the supported elements for real time data visualization. After the configuration and assignment of a specific view by a supervisor, the new layout and real time data streams are delivered to the system clients through the redundant Broadcasting Servers without any other user interference.

Broadcasting Center administration suite, besides views design and configuration, includes efficient, online supervision tools. An authorized user may view any configured data view and request specific metrics evaluating contact centre or any other linked system performance and health.

The module provides a powerful solution for driving real time data. CheckMate offers a fully customizable web based dashboards that allows authorized users to configure metrics or KPIs and even custom messages. Different statistics can be combined together using calculated fields. The application also allows scheduling of messages or metrics and the placement on the screen.
CC Accelerators (Dynamic Exclusion Management, Call-back Management, RT statistics)

A. Dynamic Exclusion Management

B. Call-back Management provides an alternative routing option, to schedule a call-back to the customer. Call-backs can be configured on an agent or campaign level or both.

C. RT statistics is a client side module for specific Aspect Unified IP statistical data presentation. The module utilizes the Online Statistical Management Server (OSMS) Client component and delivers the acquired information to an intuitive, customizable, gadget like client application. The instances of the module interface are shown below.
CheckMate Monitoring and Management (CMM)

CheckMate Monitoring and Management is an automated system that monitors the operational state of multiple systems operating simultaneously (Active – Active configuration). As soon as it detects a malfunction, it activates the mechanism of alternative connection, which includes:

A. The automatic fail-over of the agents to another functional system (see paragraph A).
B. The routing of the inbound calls to a functional system (see paragraph B).
C. The routing of the outbound calls to a functional system (see paragraph C).

Additionally, CMM may detect malfunctions for which the mechanism of alternative connection does not need to be activated. It also enables the manual or scheduled activation of the mechanism of alternative connection, in case of emergency or in order to install upgrades and Hot Fixes.

A. Automatic fail-over of agents between systems

The mechanism of alternative connection is implemented by interconnecting CMM with CRM Integration Server. Aspect CRM Connectors operate through an API which is integrated with user applications. CMM may monitor simultaneously multiple Aspect Unified IP Agents Portals and in case of a malfunction detection, it sends the respective messages to Aspect CRM Connectors, which then connect the Agents to Aspect Unified IP Agents Portals. As soon as Aspect CRM Connectors receive a message concerning the malfunction of one Aspect Unified IP Agents Portal, it automatically logs the agent in another available Unified IP Agent Portal. In case an agent has an active call, the transfer to another Unified IP Agent Portal takes place after the completion of the call.

The following diagram shows the system’s operation under normal conditions.

In case of simultaneous failure of all Agent Web Portals, all connected users are automatically transferred to the D/R site.

System’s operation in the D/R site
B. Routing of inbound calls

B.1 Load balancing through the provider

All inbound calls will be routed simultaneously to both systems, as shown in the following Diagram. Aspect Unified IP 7 contains the IP Inter-Queuing mechanism, which allows all inbound calls to be served by agents from both systems. The IP Inter-Queuing mechanism connects the phone equipment of both systems via Voice over IP. The systems are interconnected with software that allows awareness of the users’ availability. Whenever an inbound call is transferred to the primary system and there is no available agent, CMM searches automatically for an available agent in the secondary system. If an available agent is found, the call is transferred to this specific agent. In case of failure in one of the two systems, CMM deactivates the line of the system that is malfunctioning.

Inbound calls routing

B.2 Emergency routing
All inbound calls will be transferred to the Primary Site, as shown in the following Diagram. In case of failure of the Primary Site, all calls will be automatically transferred by the telecommunications provider to the D/R site. The calls that reach one out of the two Unified IP systems, will be served by agents from both systems.

### Emergency Routing

![Diagram showing emergency routing](image)

C. Routing of outbound calls

CheckMate Campaign Management enables the real-time distribution of outbound calls between both systems. This way, each list that is created may feed two or more services located in different systems. If a malfunction is detected in a service, the calls are transferred to the other services.

![Diagram showing checkmate campaign management](image)

Aspect CRM Connectors, powered by ComSys
Aspect CRM Connectors powered by ComSys is a module that enables the seamless integration of Aspect Unified IP - a state of the art multichannel contact center platform by Aspect Software - and practically any agent level CRM-type application. With Aspect CRM Connectors, applications that support line of business like Collections, Telesales, Customer Care, Directory Assistance etc. at the contact center, can now be easily and with limited effort integrated with Aspect Unified IP.

Aspect CRM Connectors is a middleware – bridge service oriented product, which facilitates full, real-time, interoperability between any agent CRM-type applications and Aspect Unified IP.

The Aspect CRM Connectors Agent Toolbar is embedded in Web based as well as Microsoft Windows CRMs, Collections and Telemarketing applications, so the task of CRM-CTI integration is now becoming straightforward, standardized and inexpensive.

ComSys has already developed adapters for major CRM applications like Oracle Siebel, Oracle PeopleSoft, Salesforce, SAP and others.

Agent Toolbar

Aspect CRM Connector for Oracle Siebel

Aspect CRM Connector for SAP with SAP Toolbar

Aspect CRM Connector for SAP with Aspect CRM Connectors Web Toolbar

Aspect CRM Connector for Oracle PeopleSoft

Aspect CRM Connector for Salesforce

CheckMate Collections
CheckMate Collections is a line of business application that supports both in-house collection centers and outsourcers and covers the complete collections cycle. It is a functionally rich collection solution that improves and automates business operations and the entire collection workflow.

**Key Capabilities**

- Customizable Workflows
- Advanced Campaign Strategy
- Call Strategy and Business Rules Engine
- Integration with Industry Leading Outbound Dialing Systems
- Legal Proceedings
- Collections Agencies Management
Business Benefits

- Increase workforce motivation and satisfaction
- Reduce training time
- Streamline business processes
- Reduce litigation risk and meet compliance guidelines
- Establish and meet qualitative performance targets
- Increased performance visibility that reduces overhead on agents, supervisors, analysts, administrators and executives
- Enhance quality of customer interactions
- Measure results using key metrics goal setting
- Improve agent skill development

CheckMate

Highlights

- Publish examples of excellent service to help agents learn from best practices
- Greater efficiency through fast and precise evaluation process
- Real time monitoring of operations and business outcomes of all contact center activities, which results in taking immediate actions to improve results
- Easy-to-use with minimal training for call center managers and supervisors
- Evaluation of Agents Skills Analysis and Productivity
- Improved contact resolution speed and increased uptime with simplified system administration

Key Features

- Balanced Scorecards
- Fully customizable evaluation tools
- Flexible recording options; intelligently select calls for evaluation
- Integrate KPIs from external data sources
- Weighted indicators
- Training plans; ability to track employee training
- Generating fully customized reports, according to user needs
System Features

- **High Availability**
  CheckMate utilizes Microsoft Network Load Balancing (NLB), a clustering technology that enhances the scalability and availability of mission-critical, TCP/IP-based services, such as Web, Terminal Services, Virtual Private Networking and Streaming Media servers. This component runs within cluster hosts as part of the Windows 2003 or Windows 2008 operating systems and does not require dedicated hardware support. To scale performance, Network Load Balancing distributes IP traffic across multiple cluster hosts. It also ensures high availability by detecting host failures and automatically redistributing traffic to the surviving hosts. Also, depending on the customer’s infrastructure, a hardware load balancer can be used, instead of NLB.

- **Database mirroring**
  CheckMate database can be configured with mirroring. Database mirroring maintains two copies of CheckMate database that must reside on different SQL Server Database Engine server instances. Starting database mirroring on a database, initiates a relationship, known as a database mirroring session, between different SQL server instances.

  One server instance – the principal server - serves the CheckMate database to clients. The other instance – the mirror server - acts as a hot or warm standby server, depending on the configuration and state of the mirroring session. When a database mirroring session is synchronized, database mirroring provides a hot standby server that supports rapid failover without a loss of data from committed transactions.

- **SQL Server 2012 Reporting Services**
  CheckMate utilizes Microsoft SQL Server 2012 Reporting Services in order to provide a complete server-based platform that is designed to support a wide variety of reporting needs, including managed enterprise reporting, ad-hoc reporting, embedded reporting and web based reporting to enable organizations to deliver relevant information across the entire enterprise. Reporting Services 2008 provides the tools and features necessary to author a variety of richly formatted reports from a wide range of data sources and provides a comprehensive set of familiar tools used to manage and secure an enterprise reporting solution. Reports are processed and delivered quickly and effectively, enabling users to either receive reports automatically through subscriptions, to access reports from a central report repository on an ad-hoc basis or to consume reports in context of their business processes by directly embedded them into their business or web applications. All reports can be exported to various formats, including Excel and XML.

---

**Why ComSys**

ComSys is an ICT provider delivering high-end software solutions, networking and IT infrastructure to the public sector and various private sector verticals in the South Eastern Europe region. The company has proven track record, with many large scale Unified Communications and Contact Center implementations around the globe.

For more information, visit [www.comsys.gr](http://www.comsys.gr).

**About Aspect**

Aspect is a global provider of customer contact and workforce optimization solutions. Aspect helps enterprise contact centers deliver remarkable customer experiences across every conversation and every channel – through a single, elegant software platform. For more information, visit [www.aspect.com](http://www.aspect.com).

**About Aspect Unified IP**

Aspect® Unified IP® is a mission-critical, high-availability, high-volume customer contact platform that maximizes the value of existing platform investments, including Microsoft® Lync™, SharePoint® and Dynamics® CRM. Features such as inbound/ACD, outbound/dialer, voice portal/IVR, email, SMS/text and chat/IM help customer-centric organizations achieve next-generation customer engagement.