



# Solution Highlights

## Prepaid mobile services with Cisco CMX

- Prepaid data and content services
- Balance management across simultaneous services
- Charging by content type and value

### The power to offer a multi-service experience

Advanced mobile and broadband technologies with their higher connection throughputs are rapidly enabling numerous new services. At the same time, traditional voice calls and data access services are becoming commoditized and their Average Revenue Per User (ARPU) is declining. By capitalizing on new technologies, operators can now differentiate themselves by offering multiple concurrent services that improve customer satisfaction and increase ARPU.

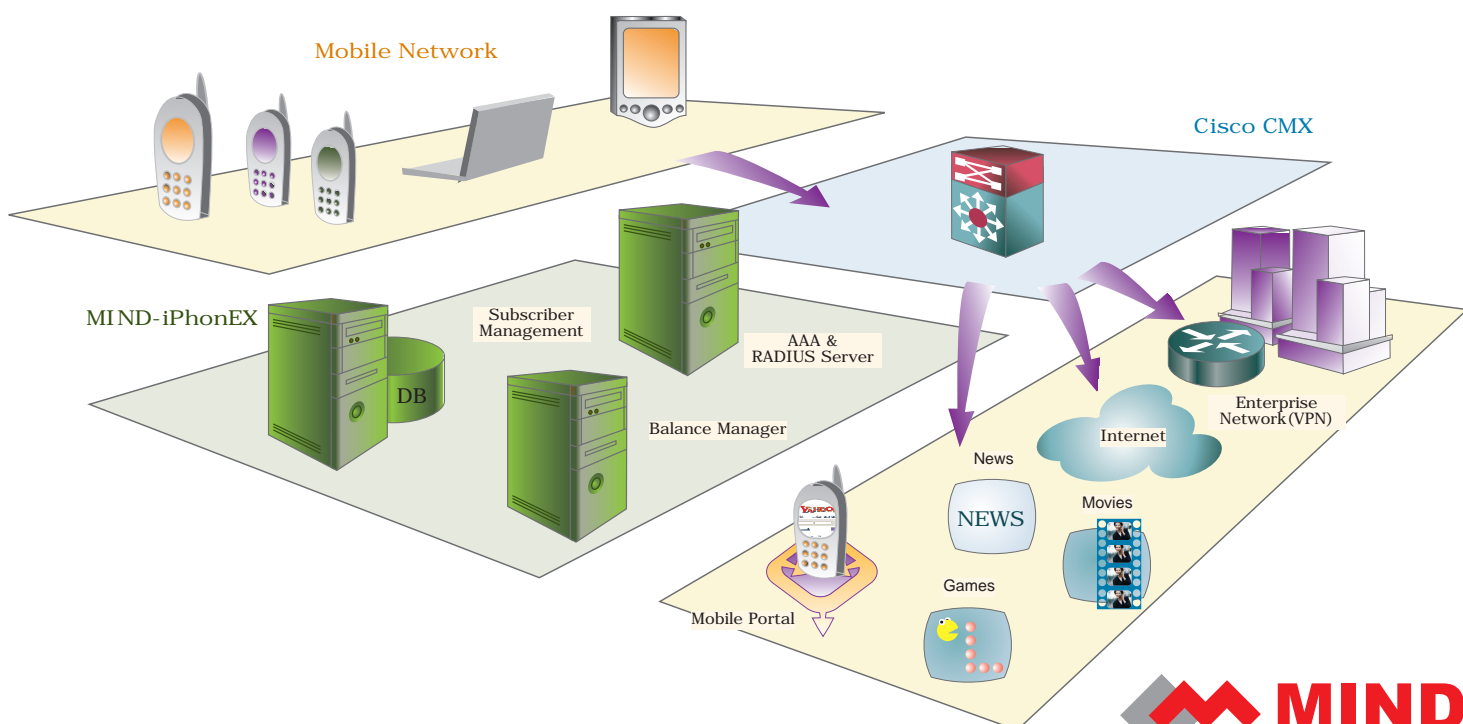
Until recently, prepaid mobile and broadband services were restricted to one service per user at a time, limiting the potential

**MIND-iPhonEX<sup>®</sup>**  
Billing & Customer Care

revenue from the network infrastructure. Introduction of new services was also limited by the cost of integrating each new service and access network (whether mobile and fixed) into the OSS and billing systems.

### MIND-iPhonEX service-enabling

MIND-iPhonEX offers a real-time service-enabling solution, allowing mobile operators to provide advanced data and content services for both prepaid and postpaid subscribers. The solution includes real-time AAA, subscriber profile management and access control, collection and correlation of all billable events. A multidimensional real-time rating engine allows rating and reverse rating of any service. The real-time balance management helps manage prepaid subscribers' credit when using simultaneous voice, data and content services, preventing revenue leakage and fraud.



## A bundled pre-integrated solution

The Cisco Mobile Exchange (CMX) is a framework of solutions that enables mobile operators to offer value-added data and content services by addressing the interface between the evolving radio access network and a wide array of Internet services. Its main components are the Service Selection Gateway (SSG) and the Content Services Gateway (CSG).

The Cisco SSG multi-service model enables users to simultaneously connect to multiple services, allowing service-based authorization and accounting. The user, whether prepaid or post-paid, can be authorized and charged according to the exact usage of the services.

Utilizing the RADIUS extensions, a full balance management session flow is implemented per subscriber service. The Cisco SSG asks for reservations (tokens) specified in volume (bytes) or time (seconds). When the token is about to expire, a new reservation is requested. When no more funds are available, the service is immediately cut off or the traffic is blocked and the user is redirected to a Web page where the account can be replenished.

The Cisco CSG provides a content-based authorization and accounting platform, where the content is identified up to the URL level. MIND-iPhonEX interfaces with the Cisco CSG in real time, using the GTP protocol. A full quota-based session flow is implemented, and a specific content download can be authorized or denied based on the user's profile and current credit. The quota units are defined based on the protocol and service, i.e. pages for a HTTP service, and bytes for a FTP service"

The combination of Cisco CMX and MIND-iPhonEX's real-time AAA, rating and balance management enables quick rollout of new services and simultaneous sessions for prepaid customers. The combined pre-

integrated solution supports authorization and advanced charging of services based on different technologies and protocols, including WAP, Video streaming (RTSP), FTP, MMS and many more.

## Real-time balance management for revenue assurance

The MIND-iPhonEX Balance Manager controls the prepaid balance, preventing any revenue leakage. The Balance Manager provides authorization for each service and content item by allocating a fraction of the available balance, translated into an appropriate quota, expressed in time, volume, number of items, or other units. When the allocated quota is about to be exhausted, the Balance Manager either reallocates a new quota or rejects the authorization request due to insufficient funds. Leakage prevention is assured, as no service or content is authorized without sufficient funds. The Balance Manager seamlessly integrates with mobile networks' Service Control Point or Intelligent Network applications (SCP/IN), giving mobile operators a single subscriber view while making the most of their legacy systems.

## Comprehensive solution

MIND-iPhonEX provides a convergent solution for both prepaid and post-paid services, covering all 2.5G/3G mobile and broadband rating models, including data volume, duration, URL, content type and type of access device. In today's extremely competitive market conditions, MIND-iPhonEX and Cisco CMX empower operators to deploy new high-margin services that can be used concurrently. The incorporated real-time balance management supports one balance for all services regardless of the access network, eliminating leakage and increasing revenue.

Headquarters  
MIND CTI Ltd.  
P.O.B. 144  
Yoqneam, 20692  
Israel  
Tel: +972-4-993-6666  
Fax: +972-4-993-7776  
E-mail: sales@mindcti.com

U.S. Office  
MIND CTI Inc.  
777 Terrace Ave.  
Hasbrouck Heights,  
New Jersey 07604  
Tel: +1-201-288-3900  
Fax: +1-201-288-4590  
E-mail: sales@mindcti.com

U.S. Office  
Sentori Inc.  
12211 Plum Orchard Drive,  
Suite 320  
Silver Spring, MD 20904, USA  
Ph: +1-301-572-1100  
Fax: +1-301-586-8680  
Toll Free (US): 1-877-736-8674-

Romania Office  
MIND Software Srl.  
Sos. Pacurari Nr. 127  
Iasi 6600  
Romania  
Tel: +40-232-258177  
Fax: +40-232-244500  
E-mail: sales@mindcti.com



For information about MIND and its products visit the company Web site:

[www.mindcti.com](http://www.mindcti.com)

THE PUBLICATION IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO: THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT. THE PUBLICATION COULD INCLUDE TECHNICAL INACCURACIES OR TYPOGRAPHICAL ERRORS. CHANGES ARE PERIODICALLY ADDED TO THE INFORMATION HEREIN; THESE CHANGES WILL BE INCORPORATED IN NEW EDITIONS OF THE PUBLICATION. MIND CTI LTD. MAY MAKE IMPROVEMENTS AND/OR CHANGES IN THE PRODUCT(S) AND/OR THE PROGRAM(S) DESCRIBED IN THIS PUBLICATION AT ANY TIME.

THIS DOCUMENT IS CONFIDENTIAL AND PROPRIETARY, IS THE EXCLUSIVE PROPERTY OF MIND CTI LTD. AND HAS BEEN PROVIDED FOR REVIEW BY THE RECIPIENT ONLY, AND MAY NOT BE DISCLOSED TO ANY THIRD PARTY. INFORMATION IN THIS DOCUMENT MAY BE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE. NO PART OF THIS DOCUMENT MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WHATSOEVER ELECTRONICALLY OR MECHANICALLY FOR ANY PURPOSE WITHOUT THE EXPRESS WRITTEN PERMISSION OF MIND CTI LTD

02-0106-04