



## ROCcloud

Now a BSS service that fits the size and speed of your business

- On-demand Business Support System (BSS) offered as a service
- Delivered over the web in a completely secure environment
- Pre-configured service; minimal customization; no implementation services required
- Currently available for fraud management, addressing all common fraud threats
- Try the service at [www.roccloud.com](http://www.roccloud.com)



## Small and medium telcos

### Unique businesses, unique challenges

Small and medium telcos have business support system (BSS) needs very different from those of larger telcos. In the same vein, most BSS products are developed to address the needs of large telcos. They are loaded with a host of standard features, not all of which are relevant to smaller organizations, and necessitate a substantial investment in licenses and resources. Quite naturally, it is difficult to justify this investment in most small and medium organizations.

#### Typical challenges of small and medium telcos

- Upfront investment in BSS software is too costly to realize full ROI
  - Product licenses
  - Implementation service fees
  - Dedicated infrastructure
- Domain expertise for operating complex systems is difficult to find and retain
  - Pressure on managing with available human resources
- Standard software maintenance costs are too costly to realize full ROI
  - Product and infrastructure upgrades and enhancements
- Limited bandwidth and time to engage with vendors during implementation or for support over the BSS product life
- Inadequate management attention to invest in what are generally perceived as non-core functions

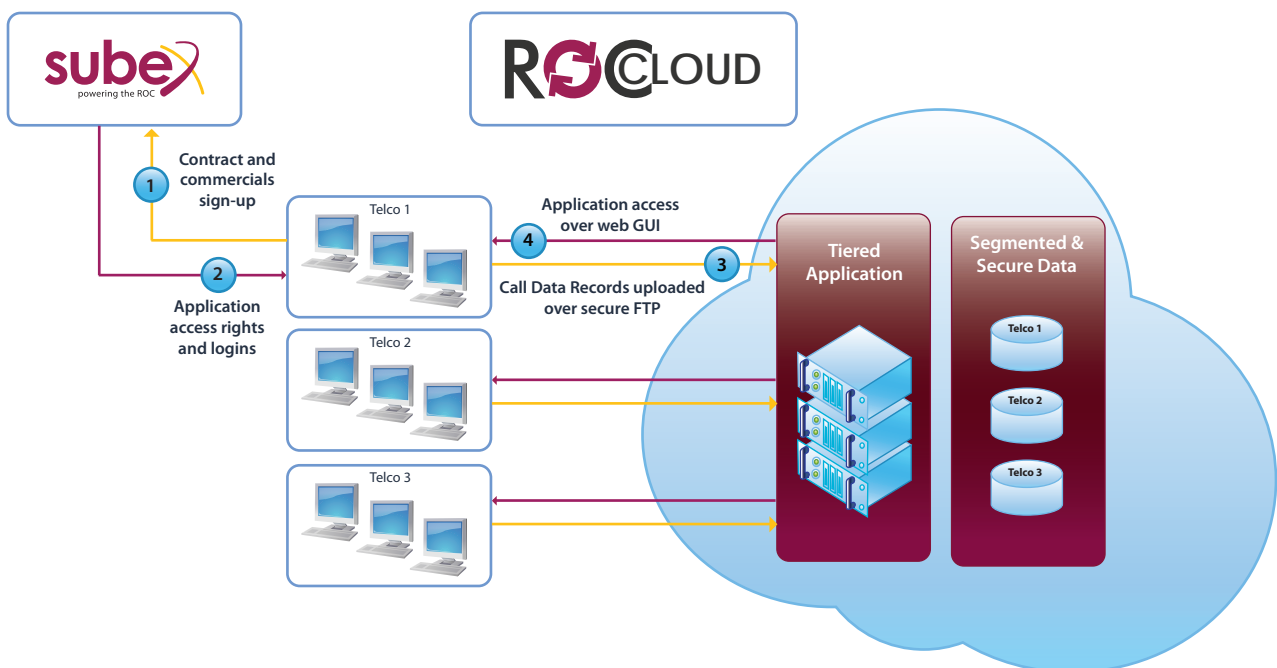
Despite these challenges, there is still a clear need for Business Support Systems within the small and medium telcos. In fact, there is a greater need to manage their business efficiently owing to the smaller base and the resultant contribution to revenue, profit maximization and cost rationalization.



## Subex Solution - ROCcloud

Subex is recognized as the leader in the business optimization space and has pioneered the concept of the ROC – the Revenue Operations Center – to enable profitable growth through coordinated operational control. The same ROC is delivered as a service to suit the needs of small and medium telcos in the form of ROCcloud. Refer subsequent pages for more information on the ROC.

### Delivery Model



### Features

- On demand business support system (BSS)
- Ideally suited for small and medium telcos
- Monthly subscription based usage model
- Delivered over the web in a completely secure environment
- Shared infrastructure at various locations across the globe
- Pre-configured service with minimal customization needed and no implementation services required
- Currently available for fraud management; addressing all common fraud threats

### Benefits

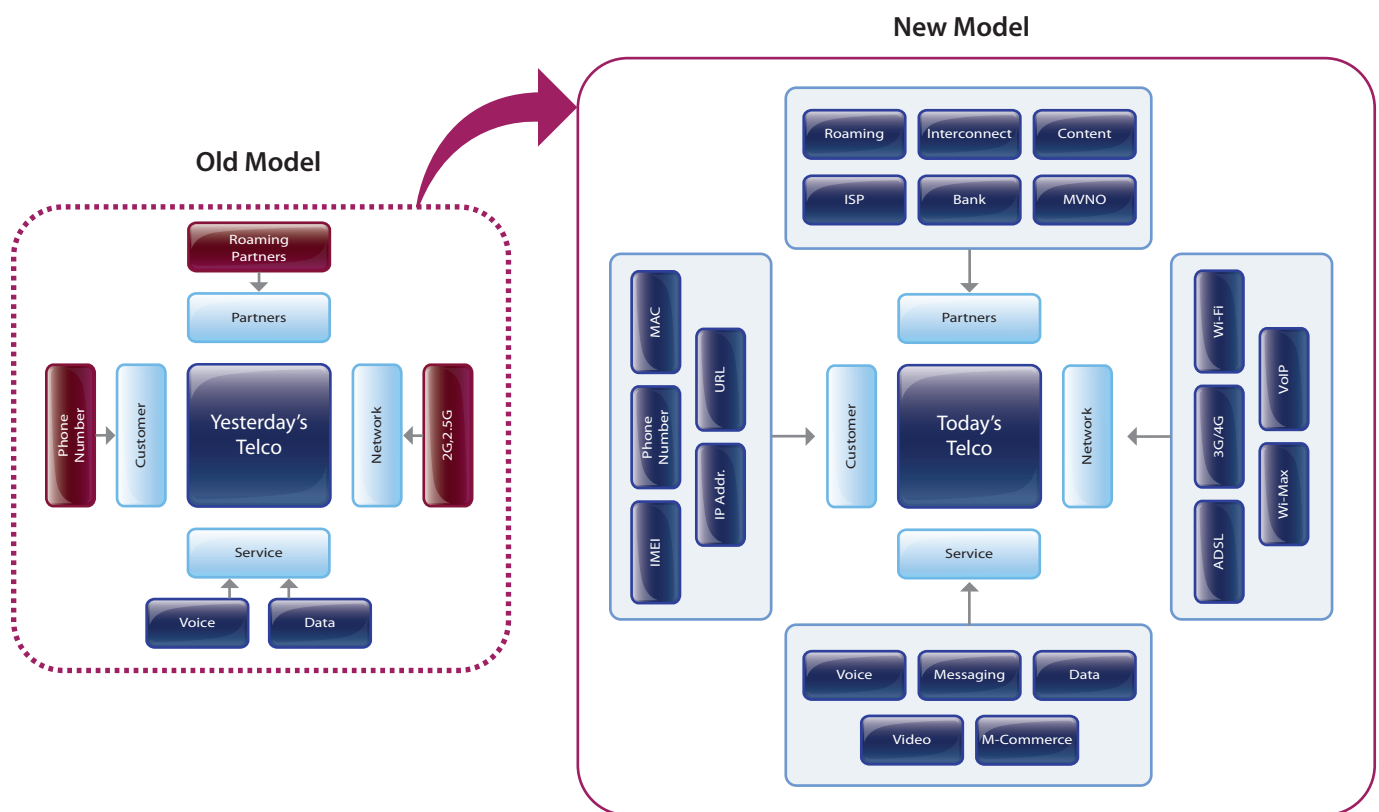
- Low cost - Minimal capital outlay, low subscription fees, no need for dedicated infrastructure
- Low maintenance - Minimal need for technical support from within the organization
- Minimal domain knowledge required - Intuitive user interface, in-built video tutorials and configuration wizards, Subex Subject Matter Expert support over Subex online community (Subex Live!)
- Minimal risk and low commitment

# Fraud Management Service

The ROCcloud Fraud Management Service is an advanced cloud-based fraud management solution built to deliver on a 3-step philosophy of Detect-Investigate-Protect. It detects known fraud types and patterns of unusual behavior, helps investigate these unusual patterns for potential fraud, and allows the knowledge thus generated, to be used to upgrade and protect the business against future intrusions.

ROCcloud Fraud Management Service's high flexibility allows telcos of different size and complexity to customize rules to suit their unique network and business requirements. Characterized by its unique architecture that harnesses the power of proven rules-based alarms and comprehensive case data, this is all made easily accessible through a single window in a fast web-based Graphical User Interface.

By taking in detailed subscriber and usage information, it has the ability to detect fraud in all telecom environments: Wireline (PSTN, ISP, VoIP), and Wireless (2G, 2.5G, 3G); and across all services: postpaid, prepaid, VAS, MMS and M-commerce.



## Features

- Comprehensive, proven fraud management capabilities
- Covers a full range of common fraud types including subscription, PRS, IDD, roaming, IRSF, Gateway and PBX
- Comprises a comprehensive set of pre-configured detection rules and a rule management capability to modify and add new rules
- Offers user notifications of any suspect alarms generated
- Provides full access to the alarm stack, individual alarm details and associated call records for subsequent analysis and investigation
- A set of pre-configured users and a basic user management facility
- A full suite of operational and management reports

## Benefits

- Immediate response to fraud
- Significant savings from day one; quick returns on investment
- Pre-configured to detect all common frauds; helps stem associated losses instantly
- Reconfiguration capabilities help detect advanced frauds
- Future proof solution alleviates the need for further investment

The Subex Online Support Portal enables customers to easily submit tickets and modify or track progress against them. In addition, the Subex Support Knowledge Base is a searchable archive of troubleshooting and product support-related questions and their answers. Furthermore, the Subex Resource Library is available to all users for instant access to White Papers, Articles, and Case Studies. Subex also offers its subject matter expertise over its online community, Subex Live!

Subex uses collocation within world-class data hosting centers, with scalable network and computing architectures. Its services are built on a secure and fault tolerant infrastructure. The data centers and support processes follow ITIL best practices and are validated through its SAS70 Type II and ISO audits.

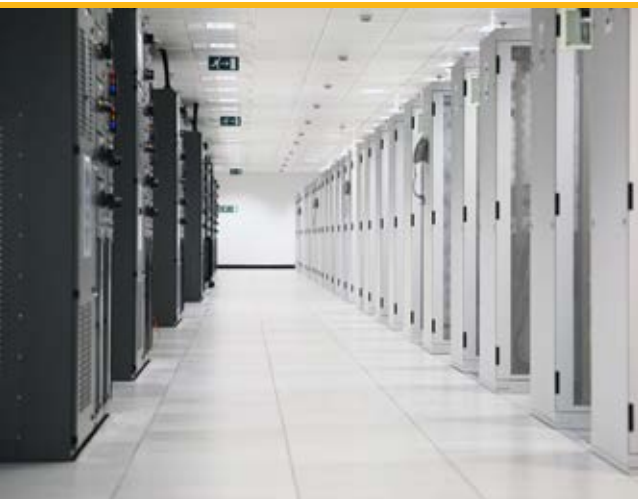
## Infrastructure

Subex's hosting infrastructure includes tier 4 (high availability) data centers with a 24/7 staffed NOC, redundant internet connections, UPS supplied power, backup generators, redundant cooling systems, 24/7 video surveillance and motion recordings, and tight access controlled via keycard and pin.

### Service Levels

- Network - 100% availability (monthly)
- Power - 100% availability (monthly)
- Packet Loss - 1% (24 hours)
- Network Latency - 40ms (24 hours)
- Quick customer service response

Subex application services include near real-time data backups and disaster recovery architectures to ensure that all data is protected and any impacts to operations are minimized. Backups are replicated to a secure disaster recovery site. The following picture highlights the key functions provided by Subex as part of the ROCcloud service.



## Experience ROCcloud

You can see how ROCcloud will meet your needs very easily, through our online demo portal.

Watch ROCcloud in action:

- Take a tour of the service
- Try your hands on the software demo complete with pre-loaded subscriber and call data records, pre-configured rules and reports
- Find answers to your most frequently asked questions

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

Subex utilizes some of the most advanced technology for internet security available. Through standard browser access, Secure Socket Layer (SSL) technology protects telco information using both server authentication and data encryption. This ensures that the data is safe, secure, and available only to the proper users within the telco organization. This data would be completely inaccessible to others outside the company.

## Support Services

### Standard Support

- Comes standard with the service
- Offers access to Subex's online customer support portal for logging cases
- No limit on the number of cases to be logged
- Assured response within 2 business days
- Offers access to Subex Live! – online community of Subex users

### Custom Integration / Development Support

- Available on request
- Support service while integrating telco's back-end system with ROCcloud
- Custom development beyond standard ROCcloud features also possible

### Health Check

- Periodic check of telco account by Subex experts to tune application
- Ensures optimal delivery of the application
- Quarterly, half yearly or annual frequency basis telco demand

### Training Services

- Offered through web conferencing
- Independent of training modules already provided in the application
- Employs professional Subex trainers to bring telco's ROCcloud user team up to speed

Subex provides assigned users in the telco organization with a unique user name and password that must be entered each time the user logs on. For ROCcloud, Subex issues a session "cookie" only to record encrypted authentication information for the duration of a specific session. The session "cookie" does not include either the username or password of the user. ROCcloud does not use "cookies" to store other confidential user and session information, but instead implements more advanced security methods based on dynamic data and encoded session IDs.

In addition, Subex's ROCcloud is hosted in a secure server environment that uses firewalls and other advanced technologies to prevent interference or access from outside intruders. Perimeter firewalls and internal firewalls segregate application tiers and organization access and data.

Subex's full Privacy Statement contains more information about the Company's information practices. Subex abides by the EU Safe Harbor Framework.



# Revenue Operations Center (ROC®)

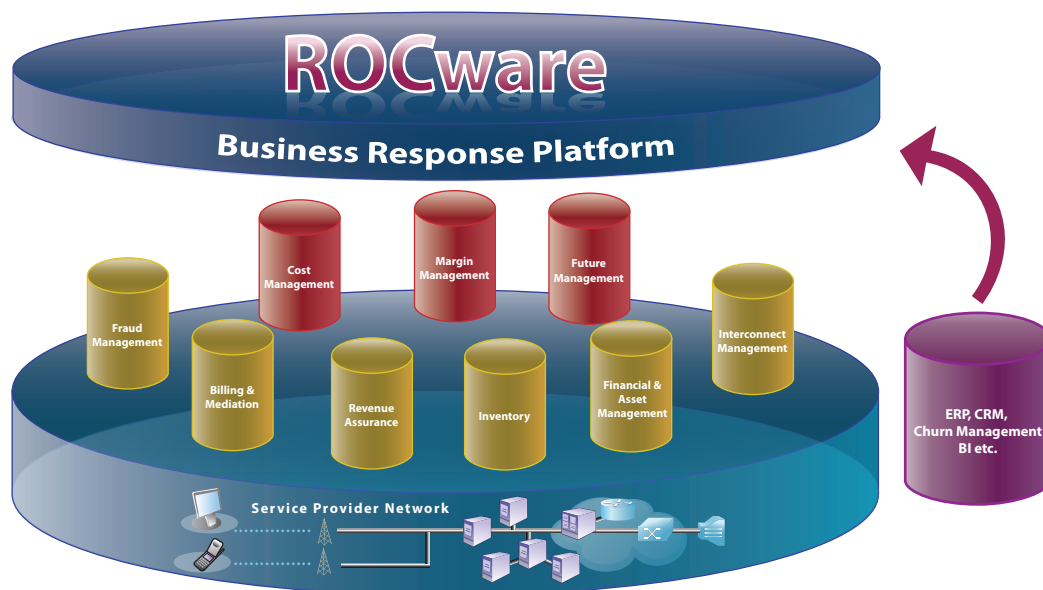
With reducing voice revenues, market saturation and increased competition, a telco's greatest challenge today is to continuously improve both Average Revenue Per User (ARPU) and Average Margin Per User (AMPU) including faster time-to-market of new services. To top that, telcos today are finding it increasingly difficult to retain existing subscribers, let alone acquire new ones.

The primary roadblock to achieving the above objectives is that many telcos lack enterprise-wide and subscriber-centric revenue, cost and margin visibility and a real-time mechanism to study the financial impact of operational changes on profitability. This lack of real-time visibility stems from the fact that most Operational and Business Support Systems (OSS/BSS) functions continue to operate as silos, thereby leading to un-correlated and massively un-utilized data within the telco's operational infrastructure.

Subex understood this and hence pioneered the concept of the Revenue Operations Center (ROC). The ROC enables profitable telco growth through coordinated operational control. For telcos that aim to optimize their operational and process infrastructure, ROC delivers Business Optimization in the most pragmatic manner.

## ROC Features

- Creates a direct linkage between operations and profitability based on credible and timely cross-functional data correlation
- Brings together, in a synergistic manner, formerly disparate assurance, audit and governance functions
- Enables an operations infrastructure that monitors and controls the entire revenue chain and identifies risks to margins and customer satisfaction
- Supports business and operational innovation programs through its end-to-end view



## ROC Features

- End-to-end operational and process visibility
  - Centralized analysis and monitoring
- Integrated and real-time solution and response mechanism
  - Faster time-to-market for new services
  - Enhanced customer satisfaction, which increases customer loyalty and reduces customer churn
- Cross domain business application correlation

## ROC Outcomes

- Enhanced revenue management
- Improved customer experiences
- Enterprise-wide risk management
- Business and operational assurance
- Pro-active intelligence and insight
- Revenue chain integrity assurance

Subex Limited is a leading global provider of Business Support Systems (BSS) that empowers communications service providers (CSPs) to achieve competitive advantage through Business Optimization - thereby enabling them to improve their operational efficiency to deliver enhanced service experiences to subscribers.

The company pioneered the concept of a Revenue Operations Center (ROC®) – a centralized approach that sustains profitable growth and financial health through coordinated operational control. Subex's product portfolio powers the ROC and its best-in-class solutions such as revenue assurance, fraud management, credit risk management, cost management, route optimization, data integrity management and interconnect / inter-party settlement.

Subex also offers a scalable Managed Services program and has been the market leader in Business optimization for four consecutive years according to Analysys Mason (2007, 2008, 2009 & 2010). Business optimisation includes fraud, revenue assurance, analytics, cost management and credit risk management. Subex has been awarded the Global Telecoms Business Innovation Award 2011 along with Swisscom for the industry's first successful Risk Reward Sharing model for Fraud Management.

Subex's customers include 16 of top 20 wireless operators worldwide\* and 26 of the world's 50 biggest# telecommunications service providers. The company has more than 300 installations across 70 countries.

\*RCR Wireless list, 2010

#Forbes' Global 2000 list, 2010



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

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