# Ribbon Provisioning & Portals

# Mobile End-Point Provisioning (MEP)

Proving the back works as good as the front looks

**Mobile End-Point Provisioning (MEP), part of Ribbon Provisioning and Portals, is a carrier-grade platform specifically designed for operators who have or intend to deploy Ribbon's GENCom client for smartphones together with Ribbon's Application Server (AS). The MEP provides reseller, carrier, and enterprise customers with a framework for the initial configuring of GENCom, as well as managing ongoing configuration updates and upgrades.**

## Simplify Softphone Administration

Softphone deployment and management can be a difficult, timeconsuming process for IT and operations staff. Current challenges range from having to load numerous screenshot documents, to manually having to install and configure endpoints on individual employee's computers, to building your own internal provisioning server.

Ribbon's MEP is a streamlined alternative that allows IT and operations staff to remotely manage GENCOM softphone endpoints within an organization. End users simply install their softphone and login. IT staff can push updates and upgrades easily and efficiently with zero impact or down-time to the end users. The MEP can be deployed as a premise based (for large enterprises) or fully-hosted solution (for residential and SMB use).

## Latest MEP Features

**Template Designer**

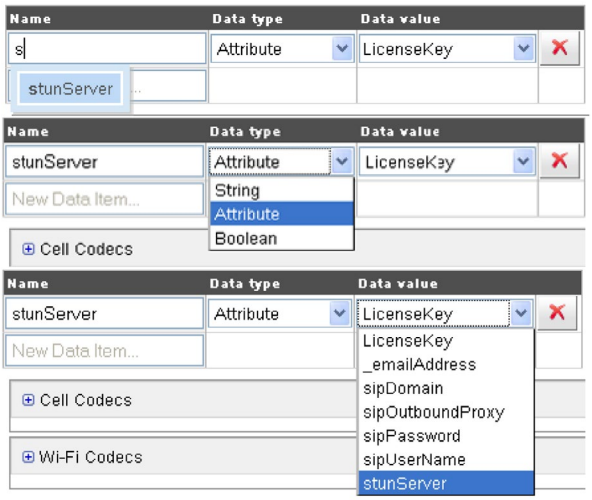
The MEP Template Designer is an easier and more structured way for administrators to create templates for various mobile and desktop softphone endpoints. Administrators still have the option to set up templates in XML, but can now toggle between the template designer and XML screens.

**Denial of Service Screening**

As an additional security feature, denial of service screening will limit the number of acceptable total requests and/or error requests to the server from any specific source within a specified period of time. This feature is configurable by the server administrator for variables such as number of requests and time period.

**Automated Configuration and Database Backup**

Administrators are provided with a process for configuration of automated database and configuration backups.




**Additional Administration Types: Users Administrator and Users & Profiles Administrator**

With these additional administration types, resellers and operators can provide customer administrators with the ability to set up users or profiles depending on their administration type.

**Event Log Download**

Administrators can now download event logs from the web interface to aid in troubleshooting issues for end-users and for archiving logs off of their server.

**LDAP Server Redundancy**

Administrators can now configure MEP to utilize a cluster of LDAP servers in either a primary or secondary configuration or in a round-robin/load balanced configuration.

**Loss of Connection Alarms**

In the event of a connection loss between the MEP and LDAP server (or list of LDAP servers), an alarm will be triggered to alert the server administrator of the issue.

## Mobile End-Point Provisioning Features

### Initial Client Configuration

The MEP performs the initial configuration and provisioning for GENCom, based upon the profiles and subscriber accounts data requested by the administrator for Ribbon AS users.

### Ongoing Configuration Management

MEP provides softphone clients the ability to instantly check for configuration changes and updates and make changes via an internal timer timer mechanism.

### Ongoing Version Management

MEP provides version control and management services that enable operators to roll out new softphone versions to their existing users on an optional or mandatory upgrade basis.

### Multi-Group Management

MEP provides provisioning group functionality, which allows customers to manage distinct groups of subscribers with different settings, client versions and more.

### License Management

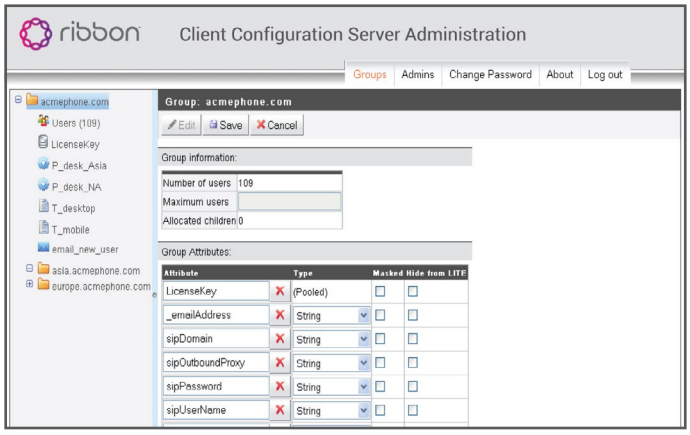
Operators and IT managers can build pools of license keys that can be drawn upon as part of the end user provisioning process. Support for individual and group licenses is provided.

### End User Notifications

Operators can generate fully customizable emails to their end users with specific client login information through the MEP web interface.

### Dynamic Configuration File Generation

Client provisioning files are generated on demand to ensure realtime content accuracy in the configuration database.




### Configuration Framework

MEP provides a framework for IT and operations staff to both customize and standardize softphone configurations configurations via flexible profile structures, templates and features.

### Analytics & Reports

Through MEP's advanced analytics and reporting capabilities customers can gain a clear view into their subscriber base's softphone configuration and usage.

### Security Settings

Client communications are facilitated via HTTPS so that softphone client configuration files are secure as they are transferred between MEP and the client. It is recommended that service providers deploy HTTPS proxy and firewalls in conjunction with MEP.

### User List Download and Upload Capability

Administrators can make bulk moves, adds or changes using a CSV file that contains data for all users. Administrators can also download CSV files for archive or editing purposes.

## Key Benefits For Service Operators

### Five-nines (99.999%) Reliability

Ribbon's MEP provides a redundant and resilient service to end customers. Load balancing of both client requests and interactions with OSS systems, ensures service availability. In-service upgrade support enables IT and operations staff to make changes to the platform without disrupting service or impacting the softphone end users.

### Advanced Security

All client interactions with MEP are securely transported using HTTPS. HTTPS ensures that the softphone client configuration files are protected as they are transferred between MEP and the client. The operational interfaces to the platform, the API, web interface, and CLI all operate over secure connections to ensure the confidence of the information is contained within and transmitted to and from MEP. Additionally, each user's configuration information is protected by a username and password specific to that user, and usernames are unique within a group. The security solution is compatible with HTTPS proxy and firewalls.

### Meet Amy

Amy is an IT manager at a midsize business with multiple satellite offices across the country. She is tasked with implementing a Unified Communications solution that will save the company money, enhance corporate communications between offices, and take advantage of VoIP technologies.

**Superior Scalability and Flexibility**
With a minimal capital investment, reseller, carrier, and enterprise customers can support millions of softphone/SIP endpoints under configuration management with MEP. MEP's profile and template structure also supports a wide variety of client types and end user configurations.

**Multi-Tenant Capabilities**
IT and operations departments no longer need to bear the full burden of managing all their end users. MEP provides a multitenancy feature that allows full responsibility for sub-group configuration to be handed down from one organization to another. Corporate IT teams can allow departmental administrators access to their portion of users within MEP. VARs and resellers can provide their customers with the same powerful management tools that their teams use. Sub-organization administrators can take full advantage of the API and web interface within their own administrative domains as well.

**Dynamic Document Generation**
MEP generates client configuration documents at the time of the request. IT and operations staff are not required to edit, or have an operations process for editing, countless configuration files stored within a massive directory structure. Each request is answered with up-to-date configuration information from the database. Changes to attributes of groups are instantly in place for all members of that group. Configuration templates are selected based upon a user's profile and populated based upon attributes for that profile and for the individual user.

## Hosted Mobile End-Point Provisioning

**Softphone Management Made Even Easier**
Ribbon also offers MEP as a fully hosted service, which enables service providers to deploy softphone endpoints with ease and efficiency with no investment in hardware, space, power or bandwidth. Ribbon manages all of the complexities involved in an MEP deployment, enabling customers to simply set up their MEP on the Hosted MEP cloud.

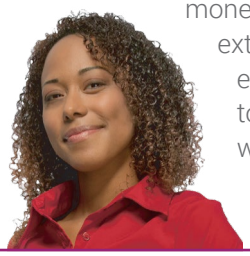
**Hosting Within the Cloud**
When a Ribbon MEP customer requires additions or changes to their GENCom clients or client groups, they can use MEP's API or web interface to make those changes within the cloud. GENCom clients check in with the hosted infrastructure to receive their initial configuration and updates, and notifications of any available upgrades.

**Web and API Access**
Each administrator for the Hosted MEP has both web-based access and API access to MEP for machine-to-machine operations. This enables staff to use the web interface to set up the structure of the profiles and templates, while a customer's provisioning and other systems can use the API to add, modify, and delete users as they are provisioned in the operator or enterprise's own systems.

**Multi-Tenant Capability**
The Hosted MEP offers multi-tenant capabilities to Ribbon customers with the ability to create sub-groups and assign administrators. Sub-groups can be created for production users, QA or IT departments, and various test groups that might be needed, and can also be used for resellers or corporate customers. Different administrators can also be created for each group, or across various groups within a customer's Hosted MEP.

### Amy's MEP Experience

Ribbon's Mobile End-point Provisioning enables Amy to avoid the expense and required resources needed to provision and administer multiple softphones across the company, saving time and money. MEP allows her to extend the company's employee communications to their mobile devices with no additional cost to implement and provision the softclients.



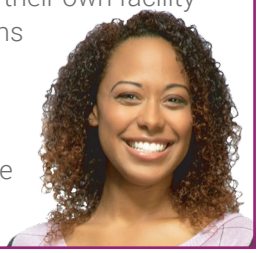
## Fully Integrated with Ribbon End-Point Provisioning

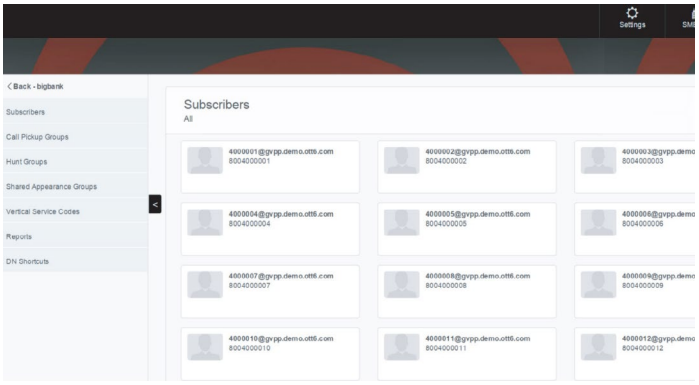
Mobile End-Point Provisioning is part of Ribbon Provisioning and Portals, the provisioning suite that allows service providers, large enterprises, resellers and even SMBs to manage their communication services from intuitive, easy-to-use, web portals. When deployed together with Ribbon Provisioning and Portals, service providers get an integrated solution that provides additional benefits:

- Integration of the management of GENCom clients into the administration portals for the large enterprises, resellers and SMB administrators. GENCom clients can now be activated, configured and assigned to SIP accounts individually, user PINs can be reset, and different parameters can be altered without having to contact the service provider customer support department.
- Synchronization of the voice feature package profiles of the AS, GENCom and other client stations (such as IP phones). Apply the change once and Ribbon propagates the changes to all the user devices.
- Optimization of resources. MEP can run on the same server as Ribbon Provisioning and Portals, reducing CAPEX and OPEX.

### Amy and the Hosted MEP

Amy was recently informed that her company has a hosted version of MEP, which would enable her to utilize all of the benefits of MEP without any investment in hardware, space or bandwidth. It allows Amy to focus on other projects as her company manages the hardware set-up in their own facility and the main group configurations within MEP. This makes the MEP even easier and faster to deploy, saving Amy's company more time and money on their softphone deployment solution.






### Operator Benefits

- No investment. Ribbon manages the purchasing, set-up and hosting of all of the hardware, space, power and bandwidth.
- Free up resources. Hosted MEP reduces the resource monopolization on IT for setting up the initial infrastructure and main group configurations.
- Enterprise-grade reliability. With five-nines (99.999%) reliability, Ribbon ensures the Hosted MEP is highly available and manages all platform monitoring.
- Accelerate Deployments. Customers can implement and deploy the Hosted MEP within days while utilizing Ribbon for the initial set--up of the system.

## Mobile End-Point Provisioning Specifications

**Configuration Management**

- Configuration of clients over HTTPS
- Freeform template infrastructure for client configuration
- Group and Profile structure for user group management
- Profile selection based upon device type for single user – multiple device support
- Freeform attribute infrastructure for both profile and user
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**Management Interfaces**

- RFC 2616: Hypertext Transfer Protocol - HTTP/1.1
- RFC 2818: HTTP over TLS
- Extensible Markup Language (XML) 1.0 Specification from w3c.org
- XML based REST API for group and end user provisioning
- Administrative web interface for group and end user provisioning
- CLI for system configuration, group, and end user provisioning

**OSS/BSS**

- Event Detail Record Generation via FTP or RADIUS
- RADIUS Accounting / CDR Generation (RFC 2866)
- RADIUS Authentication Client (RFC 2865)
- OS Resource Monitoring / High Availability
- SNMP v 2C Alarm Monitoring, Statistical Gathering
- MIB II (RFC 1213)
- Subscriber Trace

## Standard System Configurations

Ribbon Mobile End-Point Provisioning runs on a virtual machine in the same hardware as Ribbon Provisioning and Portals and other Ribbon components, when deployed together.

Ribbon MEP can also be deployed on a virtual machine within the Application Server RMS server when other Ribbon components are not deployed.

**Contact Us** We are here to help. Let us know if you are interested in a quote or if you have any questions.