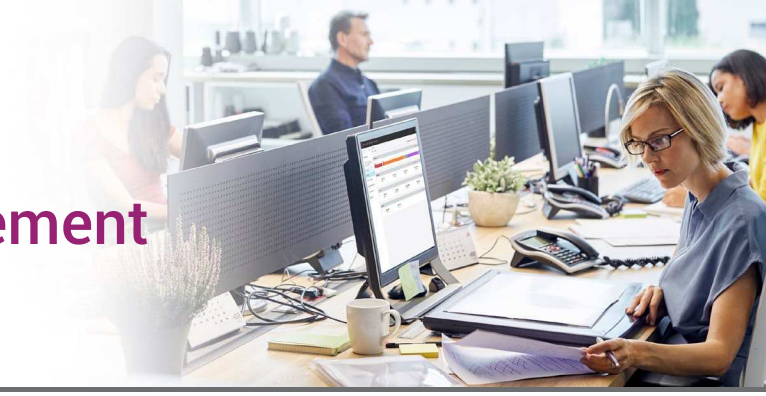
Ribbon Application Management Platform



Ribbon Application Management Platform (RAMP) is the foundation for management of Ribbon's VoIP product portfolio now and into the future. Taking advantage of cloud-native design attributes, RAMP has the flexibility to quickly add features and functionality, the scalability to handle the management needs of any sized enterprise or service provider, and the efficiency to reduce operational costs.

With the introduction of Ribbon Application Management Platform, Ribbon's customers will have an integrated management solution built on cloud native principles:

- ***API first architecture*** – REST APIs enable automated integration for northbound interfaces into a customer's operational processes and ease integration on southbound interfaces for the devices being managed. An API first architecture is also a key component internally, enabling a microservices design.
- ***Microservices*** – provides modularity for functionality to take advantage of lifecycle automation for scaling and high performance and to simplify the ability to incorporate new functionality
- ***Observability*** - is the ability to seamlessly interwork into standard frameworks for cloud-native operations

With an integrated management solution, RAMP ensures the following:

- ***Operational efficiency*** – intuitive navigation and user customization
- ***Reduced operational costs*** - simplification and automation of day-to-day lifecycle tasks
- ***Reduction in problem resolution time*** – enhanced troubleshooting using predictive analytics on data gathered through reactive and proactive monitoring
- ***Simplified licensing*** - support for network-wide licensing with integrated audits and billing
- ***Multi-tenancy*** – enabling the ability to offer secure and privacy-compliant Management as a Service
- ***Security*** – conformance to latest security standards
- ***Survivability*** – deployment options to meet high availability and disaster recover requirements

Ribbon Application Management Platform will be deployable in multiple virtual (VMware, KVM, OpenStack) environments as well as both private and public (OpenShift, Azure, AWS, GCP) cloud environments.

Used to potentially manage hundreds or thousands of devices, RAMP has adopted a streamlined and customizable graphical user interface that maximizes the 'single pane of glass' construct. Figure 1 below show the home dashboard and the main navigation options (on the left).

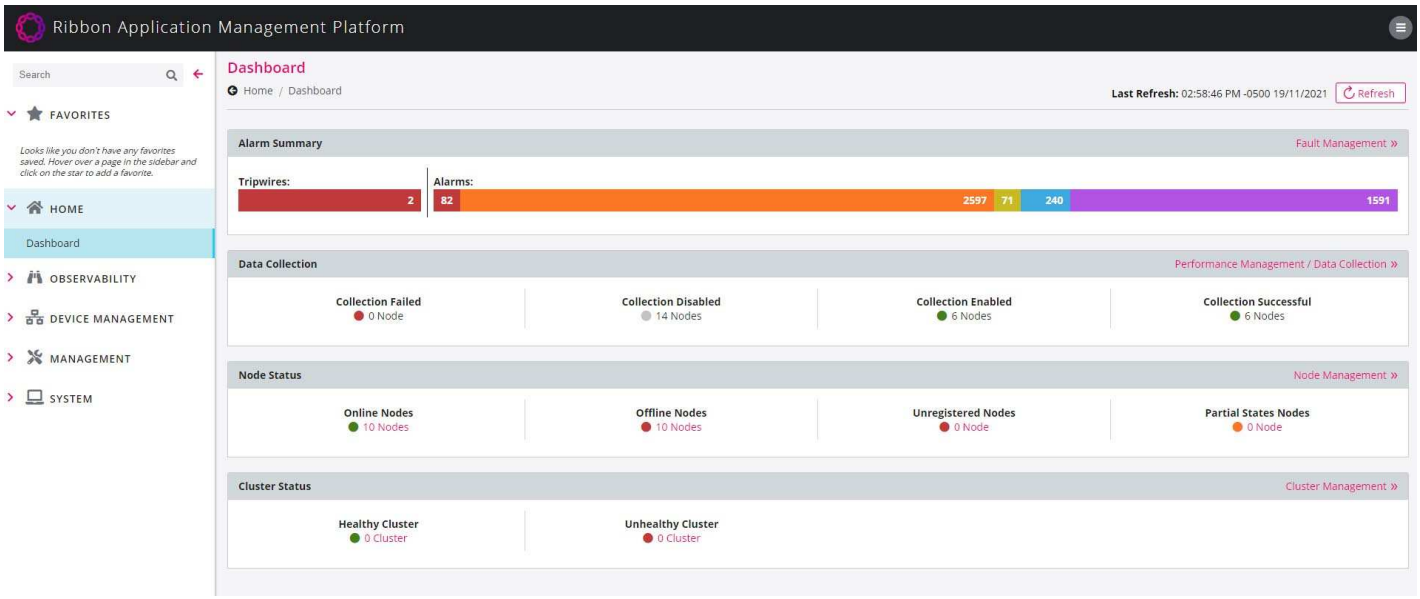


Figure 1. Single Pane of Glass Construct

RAMP dashboards are designed to provide a concise overview of the health of managed elements with color-coded information to quickly identify which areas are healthy and which may require attention. Because each customer will likely have different visualization and reporting requirements, RAMP provides the ability to customize the dashboard views. Each major functional domain is reachable via the 'home" dashboard and provides multiple drill-down options for function specific views.

Automation of information exchange between RAMP and external management processes is accomplished by implementing a robust API architecture. Designed as an API-first architecture, RAMP seamless integrates with northbound operations systems.

In its initial release, RAMP integrates management of Ribbon's core and edge session border controllers (SBCs) working seamlessly across any combination of appliance, virtual, and cloud-native instances that a customer may have deployed. The initial release also integrates management for Ribbon's centralized policy and routing server (PSX) deployed in virtual or cloud environments.

Future releases will expand Ribbon product coverage and feature capabilities.

Be confident in knowing RAMP is forward-looking, designed to take advantage of cloud native attributes and be aligned with Ribbon's VoIP product portfolio evolution to cloud native deployment models. Yet at the same time RAMP is backward compatible to manage Ribbon's installed base of both appliance and virtualized products.