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Modernizing Cisco BroadWorks for Large Enterprises and Vertical Markets:
Overcoming Operational Challenges and Unlocking Value

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Introduction

In the evolving communications landscape, service providers leveraging Cisco BroadWorks must evolve their operational models to meet the increasing demand for agility, automation, and vertical specialization.

While BroadWorks provides a solid foundation for unified communications and SIP trunking, managing it at scale—especially for large enterprises and verticals such as hospitality or healthcare—can be complex and inefficient.

This document outlines the major challenges BroadWorks customers face, proposes architectural and operational solutions, and explores enhancements tailored for large enterprises and specific industries.

Section 1: Core Challenges in BroadWorks Operations

1.1 Provisioning Complexity

Manual provisioning via native BroadWorks interfaces is cumbersome and error-prone. Native tools like CommPilot and OCI-PI are technical, difficult to automate, and unfit for high-scale, high-speed deployments.

Solution:

- RESTful API orchestration layer
- Visual workflow builder
- Bulk provisioning tools
- Role-based access with self-care portal for enterprises

1.2 Lack of Self-Service and Role Delegation

Without self-service, enterprise administrators rely heavily on service providers for changes, increasing operational overhead.

Solution:

- Mobile-first, single-page portal with end-user and admin roles
- Delegated administration with tenant/group/site levels
- Wizards and guided flows for non-technical users

1.3 Integration Gaps with Ecosystem Platforms

Integrations with Microsoft Teams, Webex, SBCs, and IMS platforms are manual and error-prone.

Solution:

- Native integration modules for MS Teams (Direct Routing and Operator Connect), Webex, Oracle/Ribbon SBCs, HSS/ENUM for IMS
- Automated provisioning, licensing, call routing

1.4 Number Management and Portability

Manual number management and porting are inefficient and lack transparency.

Solution:

- Integrated Number Inventory Management System for inventory selection and lifecycle
- Number Portability for porting workflows with GUI and API access
- Quarantine logic and entitlement control

1.5 Lack of Visibility and Analytics

Limited real-time visibility into user, call center, and trunk usage.

Solution:

- Call analytics module using BroadWorks CDRs
- Enterprise-level dashboards and KPIs (e.g., call duration, usage trends)
- Multi-tenant visibility for resellers and providers

Section 2: Enterprise Features for Large and Multi-Site Customers

Large enterprises require more than basic provisioning. Their expectations include seamless integration with their internal systems, support for complex call routing, and high-volume user management.

2.1 LDAP/AD Synchronization

Benefit: Automate user lifecycle by synchronizing BroadWorks with enterprise directories (Active Directory, LDAP).

- User onboarding/offboarding triggers Real-time sync jobs
- Delta detection for minimal disruption

2.2 Single Sign-On (SSO)

Benefit: Simplify authentication and session management across multiple applications.

- SAML/OpenID Connect support
- Seamless redirect to portal without re-authentication

2.3 Advanced Licensing and Resource Management

Benefit: Match BroadWorks entitlements to enterprise contract models.

- License pools per group/site
- Burst licensing for SIP trunks
- Visual license indicators

2.4 Call Center and Service Analytics

With Cisco's ECCR end-of-life, large enterprises need alternative platforms for call center analytics.

Solution:

- Integrate advanced call center and queue metrics
- Support for live wallboards, agent-level stats, service performance
- Compatibility with BroadWorks call center licenses (Basic, Standard, Premium)

2.5 Multi-Tenant, Multi-Cluster Provisioning

Benefit: Simplify operations across multiple BroadWorks clusters.

- API proxy and orchestration routing
- Central admin interface for all tenants and clusters

2.6 Bulk Customer Migration and Complex SIP Routing

Migrating large enterprise customers with intricate SIP trunk configurations, custom call routing rules, and multiple sites is complex and high-risk.

Solution:

- Bulk migration tools integrated with the orchestration engine
- CSV-driven import for users, groups, numbers, and devices
- Routing logic templates to handle advanced SIP scenarios (e.g., least cost routing, geo-routing)
- Validation tools and rollback capabilities
- Pre-migration simulation to detect conflicts or policy violations[1]
- Seamless migration of existing trunks and call flows, preserving business logic and minimizing downtime

6

Section 3: Vertical Use Case: Hospitality

The hospitality industry has unique requirements in guest communication, integrations with hotel systems, and transient user management.

3.1 PMS Integration (Property Management System)

Challenge: Voice services must interact with PMS systems to update guest room status, billing, and user access.

Solution:

- REST APIs and webhooks to integrate with PMS platforms (e.g., Opera, Protel)
- Automated guest check-in/out triggers extension provisioning
- Post-call billing and wake-up call integration

3.2 Room-Based Provisioning and Cleanup

Solution:

- Zero-touch provisioning templates for rooms
- Scheduled routines to reset phones post-checkout
- Integration with LDAP for staff access

3.3 CRM and Loyalty Integration

Solution:

- Sync guest profile data from CRM to personalize greetings
- Track call behavior to improve service quality

Section 4: Vertical Use Case: Finance

The financial services sector demands high levels of reliability, regulatory compliance, secure communication, and multi-location coordination. BroadWorks, when extended with the right integration and control features, can serve as a strategic platform in this vertical.

4.1 Secure Communication & Audit Readiness

Challenge: Financial institutions must comply with stringent regulations (e.g., MiFID II, FINRA, GDPR) that require call recording, encryption, and traceability.

Solution:

- Encrypted SIP trunking with centralized policy management
- Integration with compliance-grade call recording systems
- User-level logging and detailed audit trails via the self-care portal

4.2 CRM and Contact Center Integration

Solution:

- Seamless CRM integration (e.g., Salesforce, Dynamics) to provide click-to-dial, caller context, and lead tracking
- Branch-level call center analytics
- Real-time dashboards for inbound/outbound financial advisory teams

4.3 Disaster Recovery and Multi-Site Resilience

Challenge: Financial services firms operate in risk-sensitive environments and require built-in redundancy.

Solution:

- Geo-redundant SIP trunk routing and failover mechanisms
- Preconfigured disaster recovery call routing templates
- Scheduled backups of enterprise configurations through orchestration tools

4.4 Identity and Access Control

Solution:

- LDAP/AD integration to manage access based on roles and organizational hierarchy

- SSO for simplified yet secure access across branches and lines of business

Section 5: Vertical Use Case: Multinational Enterprises

Global enterprises face complex challenges managing UC services across dispersed geographies, diverse regulatory environments, and fragmented IT infrastructure.

5.1 Unified Global Operations

Challenge: Maintaining consistent communication services across continents with localized policies.

Solution:

- Centralized orchestration with regional provisioning proxies
- Language and compliance customization per region
- Unified policy management across all tenants and clusters

Section 6: Vertical Use Case: Utilities and Infrastructure Providers

Utilities, energy, and infrastructure companies depend on reliable, secure communications to support 24/7 operations across field teams, call centers, and control rooms.

6.1 High Availability Communication

Challenge: Utility providers require real-time communication with failover, especially during service outages.

Solution:

- Redundant SIP trunking with automated failover
- Device monitoring and alerting integrations
- Support for critical communication lines and priority routing

6.2 Field Operations and IoT Readiness

Solution:

- Integration with SCADA systems or mobile field tools
- VoIP endpoints with rugged hardware provisioning
- Custom APIs for status-based call flows (e.g., alarms, maintenance tickets)

6.3 Compliance and Public Safety Integration

Solution:

- Logging and retention for compliance (e.g., outage reports, dispatch)
- Localized emergency dialing plans with geo-fencing
- Advanced call queuing for high-load scenarios (e.g., outages, crises)

6.4 Distributed Site and Workforce Management

Solution:

- LDAP synchronization for rotating and temporary field staff
- Self-service configuration for regional dispatch and helpdesks
- Multi-site analytics to assess communication load per region

Conclusion: Enabling Digital Transformation for BroadWorks Customers

The convergence of automation, integration, and vertical specialization defines the next evolution of BroadWorks deployments. By layering orchestration, analytics, and self-care portals over BroadWorks, service providers can modernize operations while unlocking new value for enterprise customers.

For large organizations and verticals like hospitality, adding tailored features such as PMS integration, CRM sync, and advanced call center analytics not only increases competitiveness but also drives long-term customer loyalty.

Service providers embracing this approach are best positioned to scale, differentiate, and thrive in an increasingly competitive UCaaS market.

Are you interested in applying the solutions in your own Broadworks environment?

Let's arrange a free sessions for you !

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13