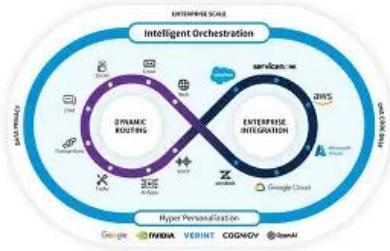


# Deployment Project

## Understanding Modern Contact Centers



### *Avaya Infinity* in an existing Contact Center

### Research Project

"This project formed part of a broader research initiative focused on evaluating and implementing Avaya Infinity within an existing contact center environment. The work culminated in a research paper designed to enhance understanding of contact center operations and the practical considerations involved in deploying a solution such as Avaya Infinity. The study provides IT project management researchers, students, and industry practitioners with valuable insights into the technical and organizational challenges associated with modern contact center deployments."

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# Technical deployment of Avaya Infinity within an existing Avaya-based Contact Centre

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## Abstract

This paper examines the technical deployment of *Avaya Infinity* within an existing Avaya-based contact center, focusing on how the platform modernizes legacy environments through cloud-smart architecture and AI-driven orchestration. *Avaya Infinity* overlays traditional systems—such as *Aura*, Communication Manager, Automatic Call Distributor (ACD), and Interactive Voice Response (IVR) systems—without requiring disruptive infrastructure replacement. Its orchestration layer integrates with enterprise systems via Session Initiated Protocols (SIP), REST APIs, and secure connectors, enabling unified workflows across voice and digital channels. Central to this architecture is the *Model Context Protocol* (MCP), which synchronizes generative AI, natural-language engines, sentiment analysis, and enterprise data sources to deliver contextual, continuous, and intelligent customer interactions. The deployment leverages hybrid cloud principles, allowing AI and workflow engines to operate in the cloud while preserving on-premises control of sensitive voice traffic. This approach provides a scalable, compliant modernization path that enhances customer experience, agent performance, and operational agility.

**Index Key Words** Avaya-Infinity, Contact Center, Unified Communication, Artificial Intelligence (AI)

## Deployment Framework for Avaya Infinity in Modern Contact Centers

### Introduction

The modernization of legacy contact center infrastructures has become a strategic priority for enterprises seeking to enhance customer experience, operational efficiency, and AI-driven automation without disrupting mission-critical voice systems. *Avaya Infinity* introduces a cloud-smart, composable architecture designed to overlay existing Avaya environments—such as *Aura*, Communication Manager, ACD, and IVR—while extending them with advanced orchestration, artificial intelligence, and digital engagement capabilities.

This paper examines the technical deployment of *Avaya Infinity* within an established call center, detailing how its orchestration layer integrates with legacy telephony components through SIP<sup>1</sup>, REST APIs, and secure data connectors. Central to this deployment is the *Model Context Protocol* (MCP), which enables

<sup>1</sup> The **Session Initiation Protocol (SIP)** is an application-layer signaling protocol used to establish, modify, and terminate real-time communication sessions across IP networks. These sessions may involve voice, video, messaging, or any combination of multimedia streams. SIP operates independently of the underlying transport layer and can use UDP, TCP, or TLS for secure signaling. It defines mechanisms for user registration, location resolution, session negotiation via SDP (Session Description Protocol), and call control functions such as transfer, hold, and conferencing. In enterprise telephony and contact-center environments, SIP enables interoperability between PBXs, softphones, SBCs, media gateways, and cloud communication platforms by providing a standardized framework for initiating and managing VoIP interactions.

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coordinated interaction between generative AI models, natural-language engines, sentiment analysis, and enterprise data sources, ensuring continuity, contextual awareness, and intelligent decision-making across customer journeys.

The deployment architecture leverages hybrid cloud principles, allowing *Avaya Infinity*'s AI and workflow engines to operate in public or private cloud environments while preserving on-premises control of voice traffic and sensitive customer data. This approach supports regulatory compliance and low-latency performance through edge technologies such as *AWS<sup>2</sup> Outposts* and Azure Local. Integration with Customer Relationship Management (CRM) platforms, workforce systems, digital channels, and enterprise databases enables Infinity to unify previously siloed systems into a cohesive interaction fabric. Through its visual workflow designer, organizations can rapidly build and modify AI-driven virtual agents, intelligent routing logic, and real-time agent assistance without requiring extensive code development.

## Evolution of Contact Center Technologies

The evolution of contact center technologies in recent years has been defined by a shift from hardware-centric, on-premises systems to cloud-native, AI-driven, omnichannel engagement platforms—an arc that can be clearly seen through the progression of Avaya's solutions. Traditional platforms like Avaya Aura were built around TDM and SIP telephony, centralized call routing, and siloed voice-only interactions. As customer expectations expanded to include digital channels, real-time analytics, and seamless cross-channel continuity, Avaya introduced hybrid architectures that blended SIP trunking, multimedia routing, and CTI integrations with CRM systems.

The latest generation, represented by Avaya Experience Platform (AXP) and Avaya Infinity, reflects a full transition to microservices, API-first design, and elastic cloud scalability. These platforms support WebRTC softphones, AI-powered virtual agents, sentiment analysis, and workflow-driven omnichannel routing that unifies voice, chat, email, and social messaging. For example, a customer who begins a conversation in WhatsApp can escalate to voice without losing context, while Infinity's orchestration engine pulls CRM data in real time to personalize the interaction. This evolution demonstrates how modern contact centers have moved from static call-handling systems to dynamic, intelligent engagement hubs capable of adapting to customer behavior, integrating with enterprise applications, and scaling instantly to meet fluctuating demand.

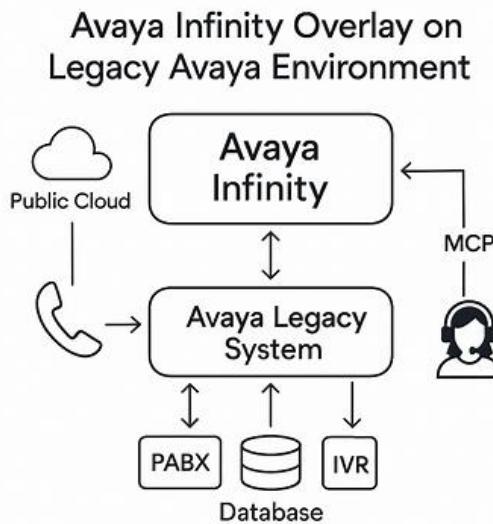
## Core Capabilities of Avaya Infinity

Operationally, *Avaya Infinity* transforms the traditional call center into a “*Connection Center*,” where AI, automation, and human agents collaborate seamlessly. Virtual agents handle routine inquiries,

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<sup>2</sup> **Amazon Web Services (AWS)** is a cloud computing platform that provides on-demand infrastructure and managed services, including compute, storage, networking, security, and AI/ML capabilities. AWS operates on a globally distributed architecture composed of Regions, Availability Zones, and edge locations, enabling high availability, fault isolation, and low-latency access to cloud resources. Its service portfolio includes foundational components such as Amazon EC2 for virtualized compute, Amazon S3 for object storage, Amazon VPC for network segmentation, and AWS Lambda for event-driven serverless execution. For hybrid deployments, AWS offers localized infrastructure solutions such as **AWS Outposts**, which extend cloud APIs and services into on-premises environments while maintaining consistent operational models. These capabilities allow enterprises to run cloud-native workloads, AI inference, and orchestration services close to their data sources while meeting regulatory, latency, and data-sovereignty requirements.

MCP-powered AI enriches live interactions with contextual insights, and supervisors gain real-time visibility into sentiment, performance, and journey analytics. The platform's composable design ensures continuous evolution, allowing enterprises to adopt new channels, AI models, and workflows incrementally. This deployment model provides a pragmatic modernization path for organizations seeking to enhance customer experience and operational agility while preserving the stability and investment of their existing Avaya infrastructure.



### Cloud-native & Microservices-driven

Avaya Infinity's latest version delivers a cloud-native, microservices-driven architecture designed to support high-volume, omnichannel customer engagement with real-time intelligence and deep extensibility. Its core capabilities include a unified interaction engine that handles voice, chat, email, SMS, and social messaging through a single routing framework, allowing customers to move between channels without losing context. Infinity's workflow orchestration layer enables event-driven automation, API-based data lookups, and conditional logic that can personalize interactions using CRM data, sentiment analysis, or historical behavior.

The platform's WebRTC-based voice capabilities provide secure, browser-native calling with SRTP/TLS encryption, adaptive jitter buffering, and codec flexibility (Opus, G.711) for high-quality audio across diverse network conditions.

### Virtual Agents

Avaya Infinity also integrates AI-powered virtual agents, intent recognition, and knowledge-base retrieval to automate routine tasks and reduce agent load. Its analytics engine delivers real-time dashboards, media quality metrics, and interaction insights that feed back into routing and automation for continuous optimization. With open REST APIs, event streaming, and modular microservices, Infinity supports seamless integration with CRM, WFM, and third-party applications, making it a scalable and extensible engagement hub for modern contact centers.

## Alignment with Business and Customer Experience Goals

Aligning an Avaya Infinity implementation with business goals begins with translating strategic objectives—such as reducing operational costs, improving service-level adherence, or increasing first-contact resolution—into measurable technical requirements within the platform. Infinity’s microservices architecture allows organizations to design routing, workflows, and automation that directly support these goals.

For example, if the business aims to reduce average handling time (AHT), Infinity can integrate real-time CRM lookups, AI-driven intent detection, and automated data-collection steps to minimize manual agent effort. Similarly, if the organization prioritizes scalability for seasonal spikes, Infinity’s elastic cloud resources and autoscaling policies ensure that routing engines, media services, and analytics components expand automatically during peak demand. This tight alignment between business strategy and platform configuration ensures that every technical decision—codec selection, SBC routing logic, API integration, or workflow design—contributes to measurable business outcomes.

## Customer Experience

Customer experience (CX) alignment requires designing Infinity’s omnichannel capabilities to support seamless, personalized, and context-rich interactions across voice and digital channels. Infinity’s unified routing engine allows customers to move between chat, voice, email, and social messaging without losing context, which directly supports CX goals such as reducing customer effort and improving satisfaction scores.

For instance, a customer who begins a conversation in WhatsApp can escalate to voice, and Infinity will pass the full interaction transcript and metadata to the agent desktop. Real-time analytics and sentiment analysis can be embedded into workflows to dynamically adjust routing—for example, sending frustrated customers to senior agents or specialized retention teams. Infinity’s WebRTC-based voice capabilities also improve CX by ensuring high-quality audio even over variable network conditions, while SRTP/TLS encryption maintains trust and security throughout the interaction.

Finally, aligning Infinity with long-term business and CX goals requires continuous optimization driven by telemetry, reporting, and feedback loops. Infinity’s analytics engine provides granular insights into queue performance, workflow execution times, media quality, and agent behavior, enabling organizations to refine processes based on real-world data.

For example, if analytics show that customers frequently abandon calls during a particular IVR step, the workflow can be redesigned or automated using AI-powered virtual agents. If business goals shift—such as expanding into new digital channels or improving self-service adoption—Infinity’s API-first architecture allows rapid integration of new messaging platforms, knowledge bases, or automation engines without disrupting existing operations.

This adaptability ensures that the platform evolves alongside business priorities, maintaining alignment with both operational efficiency and customer-experience excellence.

## Deployment Roadmap and Milestones

A successful Avaya Infinity deployment begins with a Discovery and Assessment Phase, where the project team evaluates the existing Avaya Aura or Elite environment, SIP trunking architecture, SBC capabilities, and CRM/WFM integrations.

### Key Milestones

Key milestones in this phase include completing a network readiness assessment (latency, jitter, QoS validation), mapping current call flows and IVR logic, and identifying integration points such as CTI connectors, CRM APIs, and authentication systems. This stage also includes defining business requirements, documenting customer-journey expectations, and establishing the target architecture for Infinity's microservices, routing engine, and WebRTC endpoints. A formal readiness sign-off marks the completion of this phase.

### Design and Build Phase

The next major stage is the Design and Build Phase, where Infinity workflows, routing logic, and omnichannel configurations are developed and validated. Milestones include designing SIP routing between the SBC and Infinity, configuring secure TLS/SRTP profiles, building workflow orchestration logic, and integrating CRM or ticketing systems using REST APIs. During this phase, pilot environments are deployed to test WebRTC softphones, validate media quality, and ensure that CRM screen-pops, automation tasks, and queue routing behave as expected. A controlled pilot go-live—typically with a small agent group—serves as a critical milestone, allowing the team to capture real-world performance data and refine configurations before full rollout.

### Cutover, Optimization, and Stabilization Phase

The final stage is the Cutover, Optimization, and Stabilization Phase, where Infinity is rolled out across all queues, channels, and agent groups. Milestones include full production cutover, migration of all voice and digital channels, activation of analytics dashboards, and validation of SLA performance. Post-deployment activities focus on tuning workflows, optimizing routing thresholds, scaling microservices based on traffic patterns, and refining automation based on agent and customer feedback. A stabilization checkpoint—usually after 30 to 60 days—confirms that KPIs such as AHT, FCR, call quality, and customer satisfaction have reached expected levels. The roadmap concludes with a formal project closure and transition to continuous improvement and operational governance.

## Implementing Avaya Infinity: Best Practices for Contact Center Modernization

### Overview of legacy Avaya contact center environments

The Avaya literature on Aura, Communication Manager, and Call Center Elite emphasizes highly reliable, deterministic voice and ACD environments built for scale, availability, and strong control of call routing and telephony features. These platforms centralize call control, skills-based routing, and vectoring logic, forming a robust but largely telephony-centric foundation. Documentation on Experience Portal, Breeze, and related adjuncts shows how Avaya has historically extended this core through IVR, application

enablement, and CTI, but the interaction model largely remains channel-siloed and rule-based rather than AI-driven.

Industry analyses of traditional contact centers align with this picture: on-premises ACDs and PBXs are seen as stable but relatively rigid systems, with modernization often constrained by hardware cycles, proprietary integrations, and the complexity of change in mission-critical voice environments. This backdrop is crucial for understanding Avaya Infinity's role: it is not replacing the legacy core but overlaying it with a cloud-smart orchestration and AI layer, using SIP, web services, and standard integration patterns to preserve existing investments while enabling new capabilities.

### **CCaaS, omnichannel, and the shift to cloud-smart architectures**

Research from *Gartner*, *IDC*, *Forrester*, *Omdia*, and others<sup>3</sup> consistently documents a broad migration from traditional on-premises infrastructures to *Contact Center as a Service* (CCaaS) and hybrid models. Key drivers include the need for rapid feature delivery, global scalability, integrated analytics, and support for digital channels. CCaaS is framed not just as “cloud hosting” but as a service-delivery model that abstracts infrastructure, enabling organizations to focus on experience design, orchestration, and business outcomes.

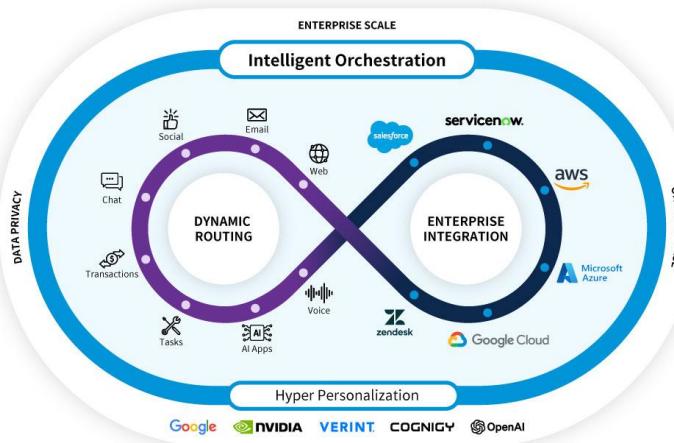
However, these same sources also highlight a reality highly relevant to Avaya Infinity: most large enterprises cannot simply “rip and replace” existing *Avaya Aura/Elite* estates. Instead, they pursue hybrid patterns—maintaining their telephony core while moving orchestration, AI, and digital engagement into cloud platforms. This aligns with Avaya’s own guidance on hybrid cloud, positioning Infinity as a cloud-smart orchestration layer that coexists with Aura/Elite, leveraging CCaaS-style deployment and lifecycle benefits without discarding the on-premises ACD.

### **AI, intelligent orchestration, and composable architectures**

The AI and orchestration literature—from vendor research (e.g., IBM, Microsoft, Google, OpenAI) and academic/industry surveys—converges on several themes: context is critical, orchestration is as important as individual models, and composable architectures are necessary to operationalize AI at scale. AI is not just a “bot” but an ecosystem of NLU, sentiment analysis, generative models, and policy engines that must share a consistent view of customer and system state.

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<sup>3</sup> Gartner, IDC, Forrester, and Omdia are leading global technology research and advisory firms that analyze markets, evaluate vendors, and provide insights used by businesses to guide strategic decisions. Gartner, Forrester, and IDC are widely recognized for their influence in IT purchasing and market forecasting ([Gartner Vs. Forrester Vs. IDC: How The Major Analyst Firms Compare](#)), while Omdia—part of Informa TechTarget—has earned industry awards for its research leadership across multiple technology sectors ([Omdia by Informa TechTarget Named Analyst Firm of the Year and Earns Multiple Industry Accolades - NewsBreak](#)). Together with other analyst organizations, they help enterprises understand technology trends, competitive landscapes, and emerging innovations.



Avaya materials on Infinity and AI Connect, together with more general work on microservices and composable platforms, support a model where intelligent orchestration sits above channels and systems. In this model, workflows are assembled from modular components—virtual agents, routing nodes, policy services, connectors—and governed by centralized logic that uses real-time context (intent, sentiment, CRM data, operational conditions) to determine the next best action.

The concept of a Model Context Protocol (MCP) fits this pattern by synchronizing context across AI components so agent-assist, virtual agents, and routing engines all “see” the same state.

For Infinity-in-Avaya deployments, this literature justifies a design in which AI and workflows are built as composable services that can be incrementally introduced, tested, and scaled, rather than monolithic applications bound to a single channel or system.

### Hybrid and distributed cloud as an execution fabric

The cloud and hybrid-deployment sources from AWS, Microsoft, and Google describe a mature landscape of global regions, availability zones, and edge/distributed offerings (e.g., AWS Outposts, Azure<sup>4</sup> Stack/Local, Google Distributed Cloud). The core message is that enterprises can now run cloud-native workloads—containers, Kubernetes, AI inference engines—close to where data and interactions originate, while still benefiting from centralized management and cloud tooling.

This is particularly relevant for contact centers, where latency and regulatory constraints are non-trivial. Running AI inference, real-time analytics, and orchestration logic closer to the voice/media path minimizes delays in virtual agents, sentiment-aware routing, and agent-assist. At the same time, distributed cloud and hybrid architectures help address data residency, especially in jurisdictions like Canada or the EU, where customer interaction data may be subject to strict controls.

<sup>4</sup> Microsoft Azure is a cloud computing platform that provides a broad set of services—more than 200 products—for building, deploying, and managing applications across on-premises, hybrid, and multi-cloud environments. It offers global datacenters managed by Microsoft, enabling organizations to reduce infrastructure costs while leveraging integrated capabilities in AI, data, security, and application development to support scalable, modern solutions. [What is Azure? | Microsoft Azure](#)

In an Avaya Infinity deployment, these patterns underpin a design where Infinity components can run in public cloud regions, in hybrid environments, or on distributed cloud infrastructure, while the *Avaya Aura/Elite* systems remain in data centers or private environments. The literature supports this as a best-practice approach for large, regulated enterprises modernizing contact centers.

### **Telephony, SIP, SBCs, and interoperability foundations**

Standards-based work on SIP (e.g., RFC 3261) and ITU-T telephony recommendations, combined with vendor materials from Avaya, Cisco, Oracle, and others, describe the signaling, codec, and session-border-control foundations of enterprise voice. These sources consistently emphasize the role of SIP trunking<sup>5</sup>, SBCs<sup>6</sup>, and routing policy in enabling interoperability between on-premises PBXs/ACDs and cloud-based services.

For Infinity, this foundational layer is critical: it allows Infinity's orchestration and AI services to "plug into" existing Avaya environments through SIP, CTI, web services, and event streams without re-engineering the entire telephony stack. SBCs and SIP trunks provide secure demarcation points and media/signaling translation where needed, while Aura's Session Manager and Communication Manager continue to handle real-time call control. The literature positions this layered approach—core telephony below, cloud orchestration above—as a pragmatic path for modernization.

### **Analytics, operations, and continuous optimization**

Industry reports on contact center analytics and workforce optimization highlight an ongoing shift from static reporting to real-time, insight-driven operations. Supervisors are expected not only to monitor SLAs and queue metrics but also to interpret sentiment trends, channel mix, and AI performance. This emphasis on continuous optimization is echoed in Avaya's own materials on WFO and cloud analytics.

In the Infinity context, the literature supports the notion that deployment is not a one-time project but the beginning of an iterative cycle. Interaction data, routing outcomes, and AI performance metrics feed analytics engines; from there, architects and supervisors refine workflows, retrain models, adjust routing, and introduce new automation. The composable, API-driven architecture described in multiple sources is what makes such iterative evolution feasible without major downtime or disruptive upgrades.

### **Compliance, privacy, and Canadian regulatory context**

Canadian regulatory sources on PIPEDA, PHIPA, and data residency make clear that contact center modernization must account for privacy obligations, cross-border data flows, and sector-specific rules

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<sup>5</sup> **Session Initiation Protocol (SIP) trunking** is a method of delivering voice, video, and other real-time communications over the internet rather than through traditional phone lines. It replaces physical telephone trunks with virtual connections that use SIP to establish, manage, and terminate communication sessions. By routing calls through an internet connection, SIP trunking enables businesses to scale more easily, reduce telephony costs, and integrate multimedia communication into a unified system.

[Everything you've ever wanted to know about SIP trunking](#)

<sup>6</sup> A **Session Border Controller (SBC)** is a specialized network device or software application that sits at the edge of IP networks to secure, manage, and control real-time communication sessions such as VoIP, video, and messaging. It protects against threats like denial-of-service attacks, enforces signaling and media policies, ensures interoperability between different systems, and maintains call quality by regulating traffic as it crosses network borders. [What is a Session Border Controller \(SBC\)? | Ribbon Communications](#)

(especially in healthcare and financial services). These documents stress accountability, consent, purpose limitation, and safeguards for personal and health information.

When applied to an Avaya Infinity deployment in a Canadian Avaya environment, this literature suggests several design imperatives: sensitive data may need to remain in Canadian data centers or specific provinces; AI services and logs must be configured to minimize exposure of personal identifiers; and hybrid or distributed cloud options may be necessary to meet residency and compliance requirements. Infinity's ability to run in hybrid or distributed deployments, alongside existing Avaya on-premises infrastructure, aligns with these constraints and is strongly supported by the regulatory and cloud-governance literature.

### **Synthesis: Implications for Avaya Infinity in existing Avaya contact centers**

Taken together, these bodies of work form a coherent justification for an Avaya Infinity deployment model that overlays intelligence, orchestration, and omnichannel capabilities on top of existing Avaya Aura/Elite estates. Legacy Avaya platforms provide the stable telephony and ACD core, while CCaaS research and cloud architecture guidance argue for moving orchestration, AI, and analytics into modular, cloud-managed services. AI and composable-architecture literature validate Infinity's design as a context-aware orchestration layer, rather than yet another siloed application.

Hybrid and distributed cloud references show how Infinity components can be deployed close to media paths and within regulatory boundaries, while SIP and telephony standards guarantee that the underlying voice infrastructure remains interoperable and manageable. Analytics and operations research highlight the need for continuous tuning of workflows and AI models, and regulatory literature frames the privacy and sovereignty constraints that shape architecture in markets like Canada. In combination, the literature strongly supports positioning Avaya Infinity as a cloud-smart, composable, AI-orchestration overlay that transforms a traditional Avaya contact center into a more adaptive, omnichannel, and regulation-aware “Connection Center” without sacrificing the resilience of existing systems.

## **Assessing Current Infrastructure and Readiness**

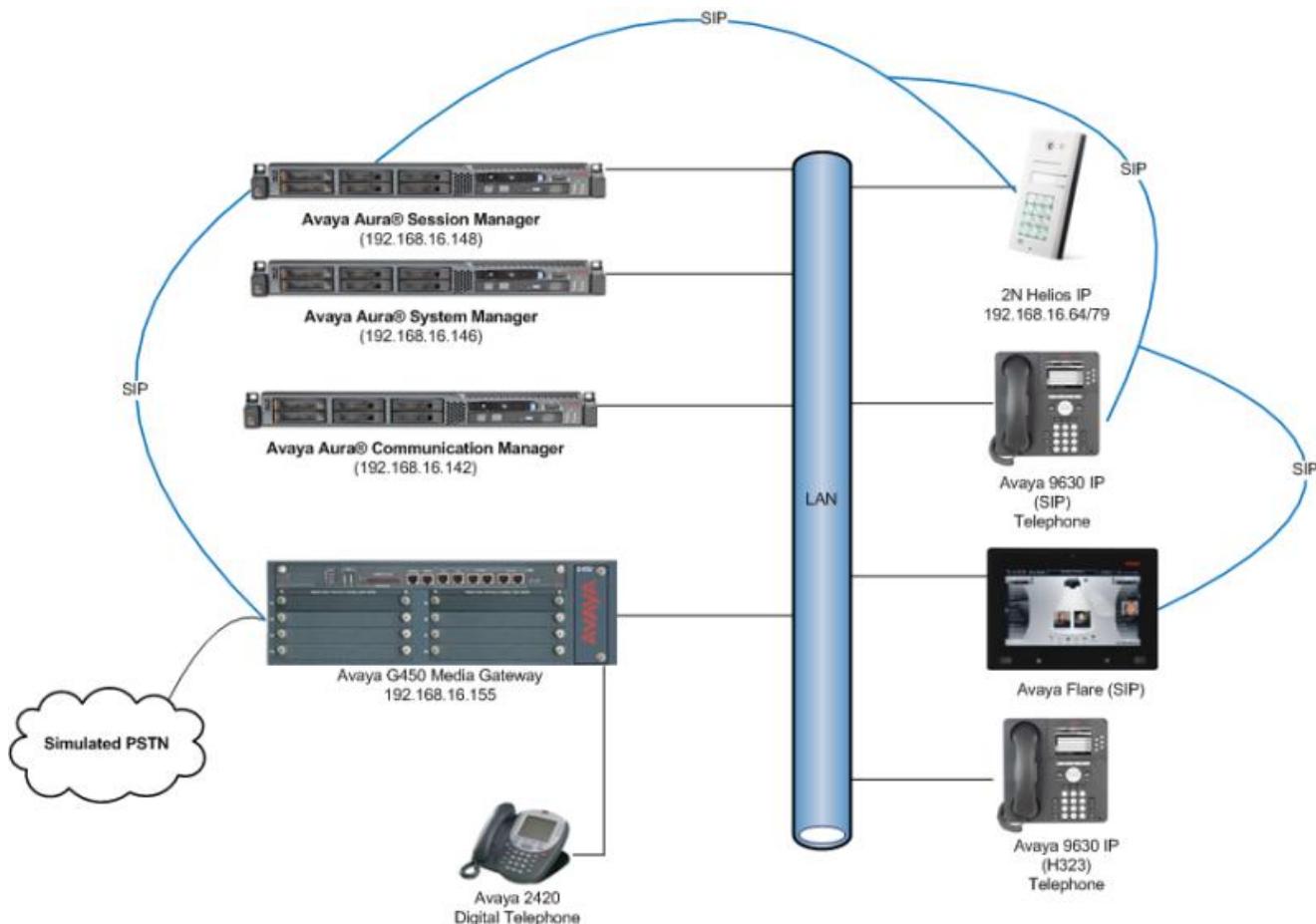
Assessing the current infrastructure and readiness for an Avaya Infinity deployment begins with a comprehensive evaluation of the network, telephony environment, and supporting systems to ensure they can handle cloud-native, SIP-based, omnichannel workloads.

### **Network Readiness**

This assessment typically includes validating WAN bandwidth, latency, jitter, and packet-loss thresholds to confirm the network can support real-time media traffic without degradation. For example, if a contact center operates with a single MPLS link and average latency spikes above 150 ms during peak hours, Infinity's media services may experience jitter or audio clipping, requiring upgrades or SD-WAN augmentation before deployment. Firewall and NAT configurations must also be reviewed to ensure outbound TLS signaling and SRTP media streams can traverse securely, with correct port ranges and session persistence. Legacy telephony components—such as on-prem Avaya Aura, older SBC firmware, or unsupported SIP trunks—must be analyzed for compatibility, since mismatched codecs or outdated TLS ciphers can cause registration failures or call setup delays once Infinity is introduced.

## API Performance

Readiness assessment also extends to application integrations, agent endpoints, and operational processes that will interact with Avaya Infinity. CRM systems, ticketing platforms, and authentication services must be evaluated for API performance, schema compatibility, and OAuth support, as Infinity relies heavily on REST-based integrations for workflows and routing decisions. For instance, if a CRM system responds slowly to API queries during customer lookups, workflows may time out and route callers to default queues, reducing routing accuracy.



## Other Devices

Agent devices—whether softphones, WebRTC clients, or physical endpoints—must be tested for codec support, browser compatibility, and headset integration to ensure consistent audio quality. Operational readiness includes reviewing existing IVR logic, queue structures, and reporting models to determine what can be migrated, what must be redesigned, and what requires new automation. By conducting this detailed assessment, organizations can identify gaps early, plan remediation steps, and ensure the environment is technically prepared for a stable and efficient Avaya Infinity deployment.

## Integration with Existing Telephony and CRM Systems

### SBC and Codec Integration

Integrating Avaya Infinity with existing telephony systems requires a detailed understanding of SIP interoperability, signaling flows, and media anchoring between legacy platforms and Infinity's cloud-native architecture. In environments where Avaya Aura or Communication Manager is still in use, SIP trunking must be configured between the on-prem system and the Session Border Controller (SBC) that fronts Infinity. This often involves SIP normalization to translate proprietary Avaya headers—such as P-Asserted-Identity or Avaya-Endpoint-ID—into standards-compliant formats that Infinity can interpret. For example, if Aura sends a SIP INVITE with a non-standard Contact header, the SBC may need to rewrite it to ensure Infinity routes the call correctly. Codec negotiation is another key factor: legacy systems may default to G.729, while Infinity prefers wideband codecs like Opus or G.711. Without proper transcoding policies, calls may fail or experience degraded audio. Ensuring TLS/SRTP compatibility, certificate trust, and DNS SRV resolution is essential to maintain secure and reliable signaling between systems.

### Customer Relationship Management (CRM) System's Integration

CRM integration is equally critical, as Infinity's workflow engine relies heavily on real-time data retrieval to personalize routing and automate customer interactions. Infinity exposes REST APIs that allow workflows to query CRM platforms—such as Salesforce, ServiceNow, or Microsoft Dynamics—to retrieve customer profiles, validate account information, or create service tickets. For example, when a call arrives, Infinity can trigger a REST lookup using the caller's ANI; if the CRM returns a high-value customer flag, the workflow can route the call to a priority queue. Integration challenges often arise when CRM systems have slow API response times, outdated authentication methods, or inconsistent data schemas. A CRM that responds in 900 ms, for instance, may cause workflow nodes to hit timeout thresholds, forcing calls into fallback routing paths. To mitigate this, organizations often implement caching layers, asynchronous API calls, or retry logic to stabilize the integration.

### Telephony Integration

More advanced deployments combine telephony and CRM integration to enable true omnichannel continuity. For example, Infinity can pass interaction metadata—such as IVR selections, sentiment scores, or previous chat transcripts—into the CRM so agents receive a unified customer history regardless of channel. Conversely, CRM events can trigger Infinity workflows, such as automatically initiating an outbound callback when a high-priority case is updated. These integrations require careful mapping of data fields, consistent use of OAuth tokens, and monitoring of API rate limits to prevent service disruptions. When implemented correctly, the combined telephony-CRM integration enables intelligent routing, reduces agent handling time, and delivers a seamless customer experience across voice and digital channels.

## Security, Compliance, and Data Governance Considerations

Security, compliance, and data governance are foundational requirements when implementing Avaya Infinity in a contact center, because the platform handles sensitive customer interactions, real-time communications, and integrated data flows across multiple systems. Infinity relies on TLS 1.2/1.3 for SIP

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signaling encryption and SRTP for media protection, which means SBCs, firewalls, and carrier trunks must support modern cipher suites and certificate chains. For example, if an organization's SBC is running outdated firmware that only supports TLS 1.0, Infinity will reject the connection, cause registration failures or dropped calls.

## Network Segmentation

Network segmentation is also essential: voice, signaling, and application traffic should be isolated using VLANs and protected with strict ACLs to prevent lateral movement in the event of a breach. Additionally, Infinity's microservices architecture requires secure API communication with CRM, identity providers, and analytics platforms. OAuth 2.0 tokens, short-lived session keys, and mutual TLS are commonly used to ensure that only trusted systems can access customer data or trigger workflow actions.

## Data Governance

Compliance and data governance considerations extend beyond encryption and network security, especially for organizations subject to PCI-DSS, HIPAA, GDPR, or regional privacy laws. Infinity supports data-masking, call-recording controls, and role-based access to ensure that sensitive information—such as credit card numbers or health data—is not exposed to unauthorized users. For example, a PCI-compliant deployment may require Infinity to automatically pause call recording when an agent enters payment information into a CRM, then resume recording once the transaction is complete. Data residency is another critical factor: organizations operating in the EU or Canada may require Infinity's data storage and analytics services to remain within specific geographic regions. Logging and audit trails must also be configured to capture agent actions, workflow changes, and API calls for forensic analysis and compliance reporting. By combining strong encryption, strict access controls, and well-defined governance policies, organizations can ensure that Avaya Infinity operates securely while meeting regulatory and data-protection requirements.

## Change Management and User Adoption Strategies

### Structured Change Management

Implementing Avaya Infinity in a contact center requires a structured change-management approach that prepares people, processes, and technology for a cloud-native, omnichannel operating model. The first step is conducting a detailed impact assessment to understand how Infinity will alter existing workflows, telephony paths, and agent tools. For example, if the deployment replaces legacy desk phones with WebRTC softphones, the project team must evaluate device readiness, headset compatibility, and browser performance across all agent endpoints. Clear communication plans are essential at this stage: stakeholders—including supervisors, network teams, QA testers, and agents—need visibility into upcoming changes, cutover timelines, and expected benefits. This early alignment reduces resistance and ensures that technical updates such as SIP routing changes, CRM API integrations, or new automation workflows are understood before rollout.

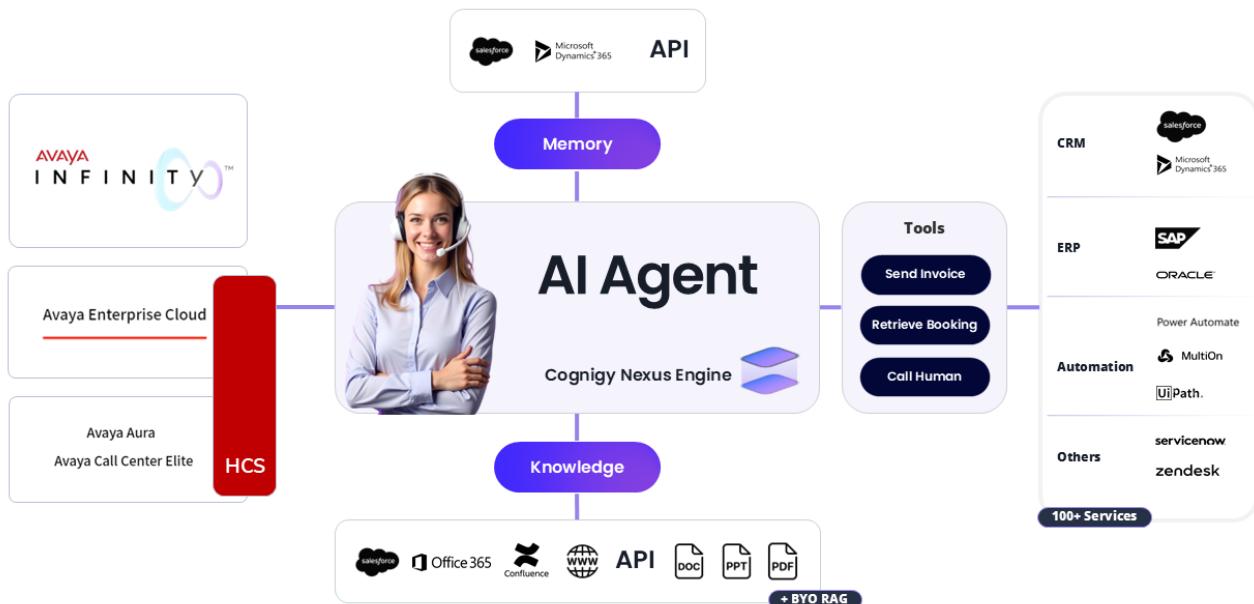
### Best Practices

User adoption strategies become critical during pilot testing and phased deployment. A best practice is to launch Infinity with a controlled pilot group representing different skill sets, queues, and interaction types.

This allows the organization to validate real-world behavior such as WebRTC audio stability, CRM screen-pop performance, and workflow execution times. For example, if agents in the pilot report that CRM lookups take too long, the team can adjust API timeout thresholds or introduce caching before expanding to the full contact center. Training must be role-specific and hands-on: agents need guided practice with the unified desktop, supervisors require training on real-time dashboards and analytics, and IT teams must learn how to troubleshoot SIP signaling, workflow logic, and integration failures. Providing sandbox environments and scenario-based simulations helps users build confidence before go-live.

## Agents Control

Sustaining adoption after deployment requires continuous reinforcement, performance monitoring, and structured feedback loops. Supervisors should track KPIs such as average handling time, call quality metrics, workflow completion rates, and agent adherence to new processes. For example, if analytics show that agents frequently bypass automated workflows, it may indicate unclear training or workflow design gaps that need refinement.



Regular feedback sessions allow agents to report usability issues—such as confusing UI elements or slow screen transitions—which can then be addressed through configuration updates or workflow optimization. Establishing a post-deployment support model with clear escalation paths ensures that issues such as SIP registration failures, CRM integration errors, or routing inconsistencies are resolved quickly.

By combining structured<sup>7</sup> change management, targeted training, and ongoing optimization, organizations can drive strong user adoption and unlock the full value of Avaya Infinity in the contact center.

<sup>7</sup> Finally, PMI's **Monitoring & Controlling** and **Closing** phases emphasize continuous improvement, performance tracking, and formal adoption measurement. After go-live, organizations should monitor KPIs such as average handling time, call quality metrics, workflow execution times, and agent satisfaction scores to evaluate adoption success. For instance, if analytics show that agents frequently bypass automated workflows, it may indicate unclear training or workflow design flaws that require refinement. Regular change-control board (CCB) meetings ensure that updates—such as adding new digital channels, modifying

## Technical and Operational Considerations

*Avaya Infinity* is Avaya's next-generation contact center platform designed to unify customer experiences across channels, systems, and workflows. It's cloud-agnostic, AI-powered, and built for enterprise-grade adaptability—ideal for organizations modernizing legacy environments without starting from scratch. *Avaya Infinity* Contact Center represents Avaya's most advanced evolution of customer-experience technology, and its power comes from deeply embedded AI that transforms how customers interact, how agents work, and how businesses orchestrate end-to-end journeys. The platform is designed to modernize even the most complex legacy environments—something especially valuable for enterprises in Canada that still rely heavily on *Avaya Aura*<sup>8</sup> or *Elite*<sup>9</sup> but want cloud-level intelligence without a disruptive rip-and-replace migration.

## Architecture

*Avaya Infinity* is built around a new architectural concept: an AI-driven orchestration layer that unifies channels, data, and workflows into a single experience fabric. Avaya describes this as enabling “superior customer interactions” through automation and journey orchestration that integrates seamlessly with existing systems. This means organizations can keep their proven voice infrastructure while layering modern digital channels, analytics, and automation on top. The platform’s cloud-smart design allows deployment on-premises, in private cloud, or across public clouds like AWS or Azure, giving enterprises flexibility and data-sovereignty control—important for Canadian businesses that must comply with federal and provincial privacy laws.

The true power of *Avaya Infinity* comes from its AI capabilities, especially through the Model Context Protocol (MCP), which Avaya highlights as a breakthrough in how AI models, data sources, and business tools connect and interact. MCP allows Infinity to coordinate multiple AI systems—such as generative AI, natural-language engines, sentiment analysis, and predictive routing—into a single intelligent workflow. This enables advanced self-service, real-time agent assistance, and automated decision-making. Avaya notes that AI-empowered self-service can significantly reduce call volume and operational costs while improving customer satisfaction<sup>avaya.com</sup>. For agents, AI provides live guidance, sentiment cues, and contextual insights, helping them resolve issues faster and more personally.

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routing logic, or integrating additional CRM fields—are reviewed, approved, and documented. A formal project closure report, including lessons learned and adoption metrics, ensures that the organization captures knowledge for future Infinity enhancements. This PMI-aligned approach ensures that Avaya Infinity is not just deployed technically, but fully adopted operationally, delivering long-term value across the contact center.

<sup>8</sup> **Avaya Aura** is an enterprise communications platform that provides SIP-based call control, session management, and unified communications services across distributed networks. It includes core components such as **Communication Manager (CM)** for real-time call processing, **Session Manager** for SIP routing and policy enforcement, and **System Manager** for centralized administration. Aura enables high-availability voice services, multi-site failover, and integration with contact-center applications through standardized interfaces and service-oriented architecture.

<sup>9</sup> **Avaya Elite** (formerly Call Center Elite) is the ACD-based contact-center routing engine built on top of Communication Manager. It provides skills-based routing, vectoring logic, queue management, and real-time call distribution optimized for high-volume environments. Elite integrates with adjunct systems such as IVR platforms, CTI middleware, and workforce optimization tools, enabling deterministic call handling and low-latency routing decisions. Together, Aura and Elite form the foundational telephony layer that Infinity overlays during modernization initiatives.

Finally, *Avaya Infinity* democratizes AI by making analytics and workflow creation accessible to supervisors and business users—not just IT teams. Avaya demonstrates that supervisors can build dashboards, analyze data, and adjust workflows in real time without relying on traditional interfaces or technical specialists. This shifts the contact center from a reactive environment to a proactive, insight-driven operation. Combined with AI-powered virtual agents that can “talk, listen, and understand callers” using natural language avaya.com, *Infinity* enables organizations to deliver seamless omnichannel experiences that feel personalized, efficient, and human—even at scale.

## Key Features and Strategic Value

*Avaya Infinity* reimagines the traditional contact center as a Connection Center, enabling seamless, intelligent, and personalized interactions across voice and digital channels.

### Core Capabilities

- **AI-Powered Orchestration:** Uses Model Context Protocol (MCP) to unify AI models and workflows across channels.
- **Cloud-Agnostic Deployment:** Works across **on-premises, cloud, or hybrid** environments.
- **Open Integration:** Connects with CRMs, data lakes, analytics platforms, and third-party systems via APIs.
- **Real-Time Interaction Management:** Supports end-to-end voice and digital journeys with precision and scale.
- **Enterprise-Grade Security:** Built with compliance, data sovereignty, and reliability in mind.

### Technology Highlights

Feature	Description
<b>Model Context Protocol</b>	A universal connector for AI models, enabling intelligent orchestration <sup>10</sup>
<b>Unified Experience Layer</b>	Breaks down silos across channels, systems, and data
<b>Composable Architecture</b>	Modular design for rapid innovation and customization
<b>Cloud-Agnostic Core</b>	Deployable on AWS, Azure, private cloud, or on-prem

### Strategic Benefits

- **Infinite Adaptability:** Easily evolve with changing customer expectations and market demands.

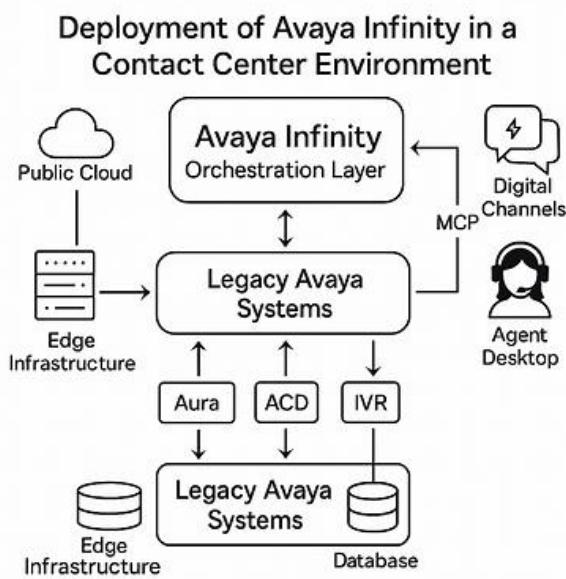
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<sup>10</sup> In the context of Avaya *Infinity*, *intelligent orchestration* refers to the platform’s ability to coordinate and manage customer interactions across voice and digital channels using AI-driven decision logic, real-time context, and enterprise data. The orchestration layer evaluates multiple inputs—including customer intent, historical interaction data, CRM attributes, sentiment analysis, and operational conditions—to determine the optimal next action within a workflow. This may involve selecting the appropriate virtual agent, routing to a skilled human agent, triggering compliance workflows, or invoking external APIs and enterprise systems. Intelligent orchestration is powered by the Model Context Protocol (MCP), which synchronizes AI models and contextual data so that decisions remain consistent across channels and interaction stages.

- **Preserve Investments:** Leverages existing Avaya infrastructure while layering modern capabilities.
- **Accelerated Innovation:** Simplifies complex environments to deploy new features faster.
- **Enhanced CX & EX:** Improves both customer and employee experiences through intelligent routing and personalization.

## Key Architectural Elements - Schematic Diagram

The Avaya Infinity Contact Center environment is built around a cloud-smart orchestration layer that unifies voice, digital, AI, and enterprise data into a single interaction fabric. At its core, Infinity provides a centralized workflow engine capable of coordinating customer journeys across channels while integrating with existing Avaya telephony systems such as Aura, Communication Manager, and Elite. This orchestration layer abstracts complex routing logic, API interactions, and AI decisioning into modular components, allowing enterprises to modernize their contact center without replacing their foundational PBX or ACD infrastructure. By operating as an overlay, Infinity brings advanced automation and contextual intelligence to environments that traditionally relied on static call flows and siloed systems.

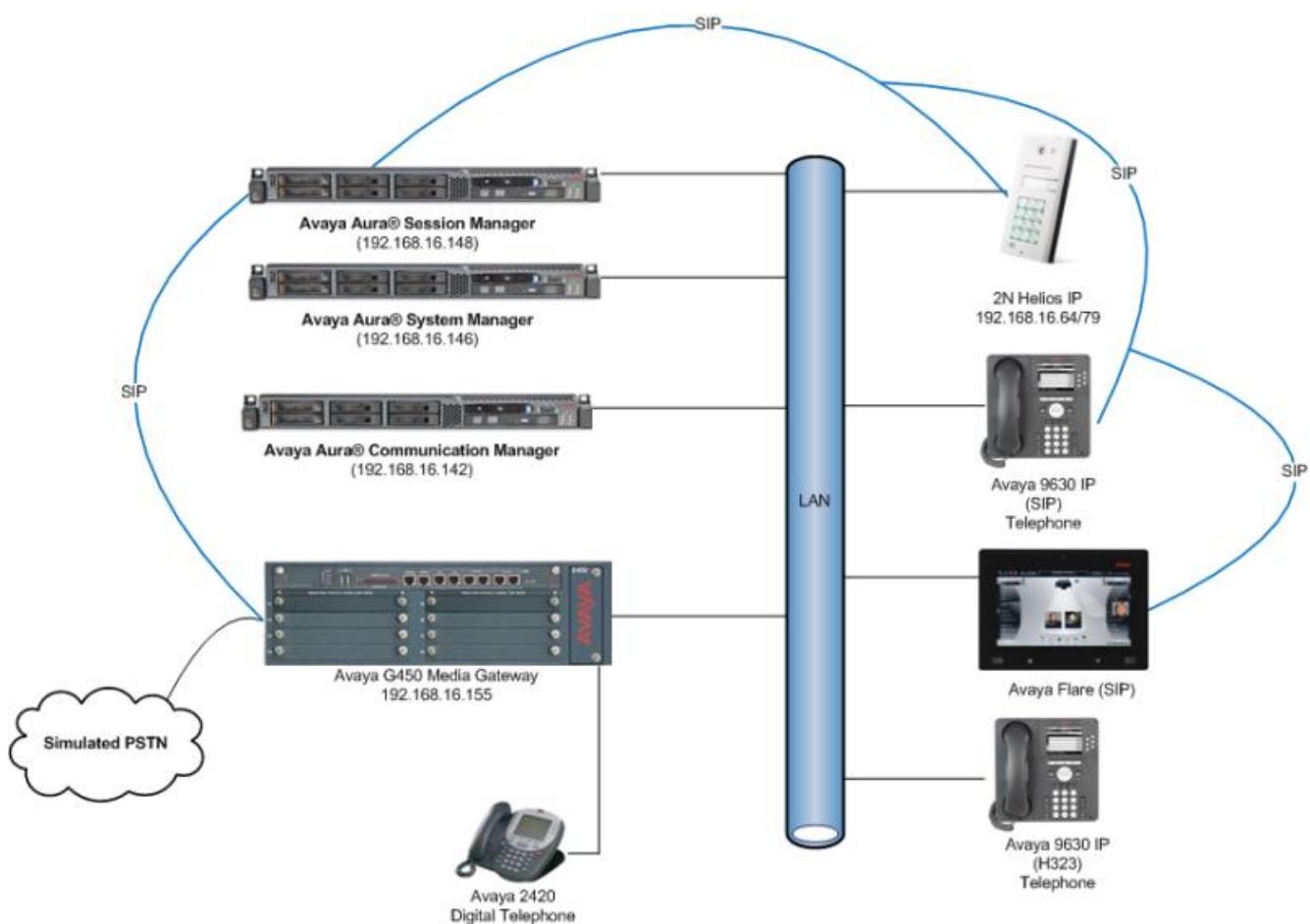


A second key element is Infinity's **AI and Model Context Protocol (MCP) ecosystem**, which enables real-time intelligence across the entire customer lifecycle. MCP synchronizes data from CRM platforms, knowledge bases, sentiment engines, and generative AI models, ensuring that virtual agents, routing engines, and agent-assist tools all operate with a consistent and up-to-date customer context. This allows Infinity to deliver capabilities such as conversational self-service, sentiment-aware routing, predictive assistance, and automated decisioning. AI components are deployed in the cloud or at the edge, depending on latency and data-sovereignty requirements, enabling high-performance processing even in regulated industries.

The third major element is Infinity's **omnichannel and analytics framework**, which consolidates voice, chat, SMS, email, and social messaging into a unified operational model. Digital channels are normalized through Infinity's adapters, allowing workflows to span multiple touchpoints without losing context. Supervisors and architects gain access to real-time dashboards, interaction analytics, and performance insights that support continuous optimization of customer journeys. Because Infinity is built on a composable architecture, new channels, workflows, and AI capabilities can be introduced incrementally, enabling organizations to evolve their contact center into a fully integrated "Connection Center" where automation and human expertise work in concert.

While building or interpreting a schematic diagram for *Avaya Infinity* deployment, it should include:

- *Avaya Infinity* Orchestration Layer (cloud or hybrid)
- Model Context Protocol (MCP) for AI coordination
- Legacy Avaya Systems: Aura, Communication Manager, ACD, IVR
- CRM Integration: Salesforce, Dynamics, ServiceNow
- Digital Channels: Chat, SMS, email, social
- Databases: Customer profiles, interaction history
- Agent Desktop: Real-time guidance, screen pop
- Edge Infrastructure: Azure Local, AWS Outposts, Google Distributed Cloud



This architecture is showing how *Avaya Infinity* overlays a legacy Avaya call center environment. It maps out the Infinity Orchestration Layer, MCP AI layer, cloud services, legacy Aura/CM, ACD, IVR, CRM, databases, digital channels, and agent desktop, all connected through clear integration flows.

## Comparison with Others

Avaya Infinity, Genesys Cloud, AWS Connect, and NICE CXone all deliver strong AI-driven contact-center capabilities, but each platform excels in different areas—from orchestration and enterprise

modernization (Avaya) to native cloud elasticity (AWS), deep workforce AI (NICE), and mature omnichannel intelligence (Genesys). Below is a clear, detailed comparison grounded in available information from your search results and industry sources.

## **AI Comparison: Avaya Infinity vs. Genesys Cloud vs. AWS Connect vs. NICE CXone**

### **1. Avaya Infinity – AI Strength: Orchestration + Enterprise Modernization**

*Avaya Infinity* is designed to bring *AI-powered orchestration* into complex enterprise environments without forcing a full cloud migration. It uses AI to unify channels, workflows, and data across legacy and modern systems.

- Uses Model Context Protocol<sup>11</sup> (MCP) to connect multiple AI models and data sources into a single workflow.
- Strong fit for organizations with Avaya Aura/Elite who want AI without ripping out existing infrastructure.
- Focuses on agent assistance, journey orchestration, and self-service automation.
- Designed for hybrid deployments, giving enterprises control over data sovereignty.

Search results highlight Infinity as a platform that “injects modern technology including AI and intelligent orchestration into existing enterprise environments.”

### **2. Genesys Cloud CX – AI Strength: Mature Omnichannel + Predictive Engagement**

Genesys Cloud is one of the most advanced AI-native *CCaaS* platforms<sup>12</sup>.

- Strongest in predictive routing, sentiment analysis, and real-time agent assistance.
- Deep omnichannel AI across voice, chat, messaging, and social.
- Built-in Genesys AI and Predictive Engagement for proactive customer journeys.
- Highly rated in industry comparisons, ranking above Avaya in mindshare and usage.

Genesys excels when organizations want full cloud transformation with powerful analytics and digital engagement.

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<sup>11</sup> *Model Context Protocol* (MCP) is an emerging open standard designed to facilitate secure, structured interoperability between artificial intelligence models (e.g., GPT, Claude, Gemini) and external enterprise systems, including APIs, databases, toolchains, and contextual user data. MCP enables AI agents to maintain operational continuity, contextual relevance, and memory persistence across interactions by synchronizing with organizational workflows, historical user states, and business logic. This protocol is engineered to support scalable, high-stakes environments where deterministic behavior, traceability, and integration fidelity are critical.

<sup>12</sup> *Contact Center as a Service* (*CCaaS*) platforms are cloud-native architectures that deliver contact-center functionality—such as routing, reporting, workforce optimization, and omnichannel engagement—through scalable, subscription-based services rather than traditional on-premises infrastructure. In the context of Avaya Infinity, *CCaaS* platforms provide the cloud foundation on which Infinity’s orchestration layer, AI engines, digital-channel gateways, and analytics services operate. These platforms abstract underlying compute, storage, and networking resources, enabling Infinity to dynamically scale interaction workloads, integrate with external APIs, and deploy new capabilities without hardware dependencies. *CCaaS* environments also support multi-tenant isolation, global availability zones, and elastic resource allocation, which are essential for high-volume, AI-driven customer-experience systems. By leveraging *CCaaS*, Avaya Infinity can overlay existing Avaya telephony systems while delivering cloud-based automation, intelligent routing, and real-time analytics with minimal operational overhead.

### 3. AWS Connect – AI Strength: Native Generative AI + Scalability

Amazon Connect is the most **AI-native** platform due to direct integration with AWS AI services.

- Uses Amazon Lex, Polly, Transcribe, Bedrock, and SageMaker for advanced conversational AI.
- Exceptional for virtual agents, real-time transcription, and automated QA.
- Scales elastically and is ideal for organizations already using AWS.
- Best for building custom AI experiences with developer flexibility.

AWS Connect is strongest for companies that want **deep customization, serverless scaling, and AI-driven automation**.

### 4. NICE CXone – AI Strength: Workforce Intelligence + Analytics

NICE CXone is known for its *AI-driven workforce optimization (WFO)* and analytics.

- Uses NICE Enlighten AI for agent behavior scoring, compliance, and coaching.
- Strongest in quality management, performance analytics, and agent guidance.
- Excellent for large operations that need AI-powered workforce management.
- Provides omnichannel routing but shines most in operational intelligence.

NICE is ideal for organizations focused on **agent performance, compliance, and large-scale analytics**.

*Side-by-Side AI Comparison Table*

Platform	AI Strengths	Best For	Notes
<b>Avaya Infinity</b>	AI orchestration, hybrid modernization, MCP model integration	Enterprises with Avaya legacy systems	Designed to unify old + new tech; strong orchestration layer
<b>Genesys Cloud CX</b>	Predictive routing, sentiment AI, omnichannel intelligence	Full cloud CX transformation	Highly rated and widely adopted
<b>AWS Connect</b>	Native generative AI, serverless scaling, custom AI workflows	AWS-centric organizations	Deep integration with AWS AI stack
<b>NICE CXone</b>	Workforce AI, analytics, compliance automation	Large operations needing WFO excellence	Strong in agent scoring and coaching

### 5. Summary: Where Each Platform Excels?

- **Avaya Infinity**      Best for enterprises modernizing legacy Avaya systems with AI without full cloud migration.
- **Genesys Cloud**      Best all-around AI for omnichannel, routing, and customer

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journey intelligence.

- **AWS Connect** Best for AI-native automation, virtual agents, and cloud scalability.
- **NICE CXone** Best for AI-driven workforce optimization and analytics.

## API Integrations and Extensibility

### RESTful APIs & Communication

API integrations and extensibility in an Avaya Infinity deployment rely on the platform's cloud-native, microservices-based architecture, which exposes a comprehensive set of RESTful APIs, WebSocket interfaces, and event-driven callbacks to enable seamless interaction with existing contact center systems.

Avaya Infinity's API framework allows real-time data exchange with CRM platforms, ticketing systems, workforce management tools, and analytics engines by supporting JSON payloads, OAuth 2.0 authentication, and secure TLS-encrypted communication. Integrations typically involve using Infinity's Interaction APIs for retrieving customer context, updating case records, or triggering workflow actions, while Event APIs push live interaction events—such as call state changes, queue updates, or agent status transitions—into external applications for monitoring or automation.

### Layers & Continuity

For advanced extensibility, Infinity supports middleware layers and custom microservices that can orchestrate multi-step processes, perform data normalization, or enrich routing decisions using external logic. When integrating with legacy Avaya Aura or third-party SIP platforms, developers often use API-driven connectors to synchronize agent states, transfer metadata across channels, or maintain omnichannel continuity.

### Latency

To ensure performance and reliability, organizations must implement rate-limit handling, retry logic, and circuit-breaker patterns, along with structured logging and monitoring to track API latency, error rates, and dependency health. This API-centric design enables Infinity to function as a flexible engagement hub capable of evolving with new digital channels, AI engines, and enterprise applications without disrupting existing operations.

## Monitoring, Analytics, and Performance Optimization

### Analytics

Monitoring, analytics, and performance optimization in an Avaya Infinity deployment require a tightly integrated observability framework that captures real-time metrics across signaling, media, workflows, and agent activity. Infinity's cloud-native architecture exposes detailed telemetry through its analytics engine, including SIP signaling traces, RTP quality metrics (latency, jitter, packet loss), queue performance, workflow execution times, and agent state transitions. These data streams are typically fed into dashboards that support threshold-based alerts, anomaly detection, and SLA monitoring.

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For deeper visibility, Infinity can integrate with external monitoring platforms using REST APIs or event-streaming interfaces, enabling centralized logging of system events, API latency, error codes, and microservice health checks.

## Optimization

Performance optimization relies on continuous analysis of these metrics to identify routing bottlenecks, workflow inefficiencies, or network-related degradation. Techniques such as dynamic scaling of microservices, adjusting QoS policies, refining routing thresholds, and optimizing API call patterns help maintain consistent service quality.

Additionally, periodic load testing, SIP OPTIONS polling for trunk health, and synthetic interaction monitoring ensure that the platform remains resilient under peak demand. Together, these monitoring and optimization practices create a proactive operational model that maintains high availability, stable call quality, and efficient customer engagement across the entire contact center environment.

## Troubleshooting Common Deployment Challenges

Troubleshooting common deployment challenges during an Avaya Infinity implementation often begins with identifying issues in SIP signaling and media flow, as these are the most frequent sources of call failures or degraded audio quality.

### Issues and Troubleshooting

Engineers typically encounter problems such as one-way audio, failed call transfers, or intermittent registration drops caused by misconfigured firewalls, NAT traversal issues, or incompatible SIP headers. For example, if RTP streams are not passing through the firewall due to missing port ranges or incorrect pinholes, agents may experience silence or dropped calls. SIP traces captured from the SBC or Infinity's signaling logs often reveal mismatched codecs, missing SDP attributes, or TLS handshake failures.

Correcting these issues requires validating DSCP markings, ensuring SRTP/TLS support is aligned across all endpoints, and confirming that SIP OPTIONS polling is functioning to maintain trunk health. In hybrid environments where Avaya Aura coexists with Infinity, SIP normalization rules may be needed to translate proprietary headers or adjust Contact/From fields to maintain interoperability.

### Workflow & Logic Corrections

Another common troubleshooting area involves workflow and routing logic, particularly when migrating from legacy IVR or ACD systems. Misconfigured decision nodes, incorrect API responses, or missing data mappings can cause calls to loop, drop into default queues, or fail to trigger automation steps. For instance, if a workflow relies on a CRM lookup via REST API and the external system returns a timeout or malformed JSON, the workflow may stall or route the customer to an unintended queue.

Troubleshooting this requires reviewing workflow execution logs, validating API endpoints, and implementing fallback branches that gracefully handle errors. Routing issues may also arise when agent skills or proficiency levels are not synchronized correctly, leading to long wait times or uneven load distribution. In such cases, administrators must verify that skill assignments are replicated across nodes,

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queue thresholds are configured properly, and predictive routing models have sufficient historical data to function accurately.

## System Performance

A third category of deployment challenges involves integration failures and system performance bottlenecks. API-driven integrations with CRM, ticketing, or workforce management systems can fail due to expired OAuth tokens, rate-limit violations, or schema mismatches. For example, if Infinity attempts to push interaction events to an external analytics platform but exceeds the platform's API rate limits, events may be dropped or delayed, causing gaps in reporting. Troubleshooting requires implementing retry logic, monitoring API latency, and using circuit-breaker patterns to prevent cascading failures. Performance issues may also surface when microservices scale unevenly, resulting in slow workflow execution or delayed agent state updates.

Administrators often rely on Infinity's telemetry dashboards to identify high CPU usage, memory saturation, or queue backlogs within specific microservices. Adjusting autoscaling policies, optimizing workflow logic, or redistributing traffic across regions typically resolves these issues. By combining detailed log analysis, structured testing, and proactive monitoring, organizations can systematically troubleshoot and stabilize Avaya Infinity deployments in complex contact center environments.

## Post-Deployment Support and Continuous Improvement

Post-deployment support for an Avaya Infinity implementation requires establishing a structured operational framework that continuously monitors system health, validates service performance, and ensures that all microservices, routing components, and integrations remain stable under real-world load.

### Tiered Support

This typically begins with setting up a tiered support model where Level 1 handles agent-facing issues, Level 2 manages workflow and routing escalations, and Level 3 focuses on SIP signaling, SBC policies, and API-driven integrations. For example, if agents report intermittent call drops after go-live, support teams may analyze SIP traces from the SBC, review Infinity's signaling logs, and verify whether RTP packets are being blocked by a firewall rule that was overlooked during deployment. Similarly, if digital interactions fail to trigger workflows, support engineers may inspect REST API responses, check authentication tokens, or validate that workflow nodes are not exceeding timeout thresholds. This structured approach ensures that issues are triaged efficiently and resolved before they impact customer experience.

### Realtime Dashboard & Continuous Improvement

Continuous improvement efforts rely heavily on analytics, telemetry, and feedback loops that reveal how the platform behaves under varying traffic patterns. Avaya Infinity provides real-time dashboards for queue performance, agent utilization, workflow execution times, and media quality metrics such as jitter, latency, and packet loss. By analyzing these data points, operations teams can identify recurring bottlenecks—for instance, a workflow that consistently delays due to slow CRM API responses or a queue that regularly breaches service-level thresholds during peak hours. These insights drive targeted optimizations such as

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redesigning workflow branches, adjusting routing thresholds, or scaling specific microservices to handle higher concurrency.

A practical example is refining predictive routing models after observing that certain agent skill groups consistently outperform others for specific interaction types, allowing the system to route calls more intelligently over time.

A mature post-deployment strategy also incorporates proactive enhancements, periodic audits, and structured change-management cycles to ensure the platform evolves with business needs. This includes updating SBC firmware, optimizing QoS policies, refining autoscaling rules, and validating that SIP trunks maintain redundancy across carrier PoPs.

### Tuning Cycles

Regular “tuning cycles” may involve reviewing agent feedback to improve UI layouts, enhancing automation flows to reduce manual tasks, or integrating new digital channels such as WhatsApp or Apple Messages for Business. For example, if analytics reveal that customers frequently abandon calls during IVR navigation, the organization may redesign the workflow to shorten menu paths or introduce AI-driven self-service options. By combining technical maintenance, data-driven optimization, and continuous user-experience refinement, organizations ensure that Avaya Infinity remains resilient, scalable, and aligned with evolving contact center demands.

## Architecting a Successful Avaya Infinity Deployment

*Avaya Infinity* can be deployed into a call center as a hybrid, cloud-smart platform that overlays modern AI, orchestration, and digital capabilities on top of existing Avaya infrastructure—allowing enterprises to modernize without ripping out their legacy systems. This makes it especially valuable for large Canadian organizations that still rely on Avaya Aura or Elite but want to introduce AI-powered customer experiences. Avaya’s own documentation emphasizes that Infinity is designed to “remove silos and unify experiences” while extending the value of existing investments.

## High-Level System Architecture Overview

### APIs & MCP

Deploying *Avaya Infinity* begins with establishing the Infinity orchestration layer, which acts as the central intelligence of the contact center. This layer connects to existing Avaya voice systems, CRMs, databases, and digital channels. Avaya highlights that Infinity is built to unify fragmented customer experiences by injecting AI and intelligent orchestration into the enterprise environment. This means the deployment does not require replacing the PBX, ACD, or routing logic already running on Avaya Aura or Communication Manager. Instead, Infinity integrates through APIs, connectors, and the Model Context Protocol (MCP), which Avaya describes as a universal connector for AI models and workflows across the platform.

A key technical component of deployment is the Model Context Protocol (MCP), which enables Infinity to coordinate multiple AI engines—such as generative AI, natural-language processing, sentiment analysis, and predictive routing—within a single workflow. Avaya states that MCP support marks a major leap forward in intelligent orchestration and open integration across the Infinity platform. In practical terms,

this allows the call center to deploy AI-powered virtual agents, real-time agent assistance, automated quality monitoring, and personalized routing without needing separate AI systems for each function. MCP ensures that all AI components share context, customer history, and intent data throughout the interaction.

## Hybrid Configuration

From an infrastructure perspective, *Avaya Infinity* can be deployed on-premises, in private cloud, or in hybrid environments, giving enterprises flexibility in meeting data-sovereignty requirements. Avaya confirms that partners can deploy Infinity in customer data centers using edge technologies such as Azure Local, AWS Outposts, or Google Distributed Cloud.<sup>13</sup> This is particularly important for Canadian organizations that must keep customer data within provincial or federal boundaries. The hybrid deployment model allows Infinity to run AI and orchestration in the cloud while keeping voice traffic and sensitive data on-premises.

## Network, SBC, and SIP Trunking Requirements

Implementing Avaya Infinity in a call center requires a robust and carefully engineered network foundation capable of supporting real-time communications with low latency, minimal jitter, and high availability. The network must be designed to prioritize RTP media streams using QoS mechanisms such as DSCP tagging (typically EF for voice and AF41/AF42 for signaling). End-to-end latency should ideally remain below 150 ms, with jitter under 30 ms and packet loss below 1 percent to maintain call quality. Redundant WAN links, SD-WAN overlays, and segmented VLAN architectures are commonly used to isolate voice, signaling, and application traffic. Infinity's cloud-native architecture also requires secure outbound connectivity to Avaya's cloud endpoints, meaning firewalls must allow SIP signaling (usually over TLS) and media ports (RTP/SRTP) with strict session-state tracking and NAT traversal support. DNS resolution, TLS certificate validation, and time synchronization (NTP) are equally critical to ensuring stable registration and session establishment.

## Session Border Controller

The Session Border Controller (SBC) plays a central role in securing and mediating SIP traffic between the enterprise network and Avaya Infinity's cloud services. The SBC must support SIP over TLS for signaling encryption and SRTP for media protection, along with topology hiding, DoS/DDoS mitigation, and SIP normalization to handle variations in SIP headers from different carriers or internal systems. High-availability SBC clusters—using active-standby or active-active modes—are recommended to ensure uninterrupted service.

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<sup>13</sup> *Google Distributed Cloud (GDC)* is a hybrid and edge computing platform that extends Google Cloud services—including compute, storage, Kubernetes orchestration, and AI/ML capabilities—into on-premises data centers, colocation facilities, and edge locations. In the context of Avaya Infinity deployment, GDC provides a localized execution environment where Infinity's AI inference engines, workflow components, and real-time analytics can run physically close to the customer interaction point. This reduces latency for conversational AI, improves response times for agent-assist functions, and ensures deterministic performance for time-sensitive contact-center workloads. GDC also supports strict data-sovereignty and compliance requirements by keeping regulated customer data, call metadata, and interaction logs within national or organizational boundaries while still enabling cloud-native orchestration and lifecycle management. By integrating with Google Distributed Cloud, Avaya Infinity can operate in a hybrid model that combines cloud-based scalability with on-premises control, making it suitable for enterprises with stringent privacy, regulatory, or low-latency operational constraints.

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The SBC must also be configured with appropriate SIP routing rules, media anchoring policies, and transcoding capabilities when interacting with legacy systems or carriers that use different codecs. For Infinity deployments that integrate with on-prem Avaya Aura or third-party platforms, the SBC becomes the interoperability hub, translating SIP variants, enforcing codec negotiation, and ensuring secure traversal across network boundaries.

SIP trunking requirements for Avaya Infinity include carrier trunks that support SIP over TLS, SRTP, and modern codec sets such as G.711, G.729, and increasingly Opus for wideband audio. Carriers must provide elastic trunking capacity to accommodate dynamic call volumes, along with redundancy across multiple *Points of Presence* (PoPs) to minimize service disruption. Proper SIP trunk sizing is essential: organizations typically calculate busy-hour call attempts (BHCA), concurrency ratios, and expected growth to determine the number of required sessions.

## SIP Options

The SBC must be configured to manage failover between primary and secondary trunks, handle SIP OPTIONS polling for trunk health monitoring, and enforce routing logic that aligns with Infinity's cloud endpoints. Additionally, enterprises must ensure that their public IP addressing, firewall NAT rules, and DNS SRV records are correctly configured to support SIP registration, failover, and media path optimization. Together, these network, SBC, and SIP trunking requirements form the technical backbone that enables a stable, secure, and high-quality Avaya Infinity deployment.

## Workflow, Routing, and Automation Design

Designing workflows, routing logic, and automation for an Avaya Infinity implementation requires a deep understanding of how the platform orchestrates interactions across voice and digital channels. At the workflow level, Infinity uses a cloud-native orchestration engine that supports event-driven logic, API-based triggers, and conditional branching to manage customer journeys. Workflows typically begin with channel-specific entry points—such as SIP INVITE for voice, webhook events for chat, or REST API calls for digital channels—and then progress through decision nodes that evaluate customer attributes, CRM data, queue conditions, and business rules.

### Workflow Designer

Infinity's workflow designer supports integration with external systems through REST connectors, allowing real-time data retrieval for authentication, account lookup, or case creation. To maintain performance, workflows must be optimized to minimize external API latency, avoid unnecessary loops, and ensure that error-handling branches are defined for timeouts, invalid responses, or system failures.

Routing design in Avaya Infinity is built around skills-based, attribute-based, and context-aware logic that determines the optimal agent or queue for each interaction. The routing engine evaluates multiple parameters—including agent skills, proficiency levels, queue occupancy, service-level thresholds, and customer priority—to dynamically select the best path.

## Predictive Routing

Advanced deployments often incorporate predictive routing, which uses historical performance data and real-time analytics to match customers with agents most likely to achieve successful outcomes. For voice interactions, SIP headers, ANI/DNIS information, and IVR inputs are used to determine routing branches, while digital channels rely on metadata such as customer ID, session history, or sentiment analysis. High-availability routing requires redundant routing nodes, synchronized configuration stores, and continuous health checks to ensure that routing decisions remain consistent even during failover events.

## Automation

Automation design plays a critical role in maximizing the efficiency of an Avaya Infinity deployment. The platform supports automation through bot frameworks, AI-driven intent recognition, and workflow-embedded automation tasks such as data validation, CRM updates, and knowledge-base retrieval. Voice and digital bots can be integrated using Avaya's native AI services or third-party engines via REST or WebSocket interfaces.

Automation tasks must be designed with clear fallback logic so that interactions can seamlessly escalate to human agents when confidence scores drop or when business rules require manual intervention. Additionally, Infinity's analytics engine provides real-time metrics that can be fed back into automation workflows to adjust routing thresholds, trigger alerts, or modify queue strategies dynamically. When implemented correctly, the combination of intelligent workflows, adaptive routing, and robust automation creates a highly scalable, resilient, and customer-centric contact center environment.

## Scalability and High-Availability Planning

### Cloud-architected design

Scalability and high-availability planning for an Avaya Infinity implementation requires a cloud-architected design that ensures continuous service delivery, elastic resource allocation, and fault-tolerant operation across all interaction channels. Infinity's microservices-based architecture distributes core functions—such as routing, workflow orchestration, media services, and analytics—across containerized components that can scale horizontally based on real-time load. This means CPU, memory, and session-handling capacity can expand automatically as call volumes increase, provided that supporting infrastructure such as SBC clusters, WAN bandwidth, and SIP trunk capacity are sized for peak concurrency.

### Muti-region Redundancy

High availability is achieved through multi-region redundancy, active-active service nodes, and automatic failover mechanisms that reroute signaling and media traffic if a component or region becomes unavailable. To support this, enterprises must implement redundant SBCs, dual Internet circuits, DNS-based failover (often using SRV or geo-redundant records), and synchronized configuration repositories to ensure routing logic and workflows remain consistent across nodes.

Continuous health monitoring, heartbeat checks, and automated scaling policies are essential to detect service degradation early and trigger corrective actions without human intervention. When combined with

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resilient network design and proactive capacity planning, these architectural principles enable Avaya Infinity to maintain stable performance, absorb traffic spikes, and deliver uninterrupted customer engagement even under failure conditions.

## Building the Deployment Plan

Deploying *Avaya Infinity* in a call center begins with establishing the platform's *Experience Orchestration Layer*, which becomes the central intelligence hub for all customer interactions. Unlike traditional deployments that require replacing existing PBX or ACD systems, Infinity is designed to **overlay** your current Avaya Aura, Elite, or Communication Manager environment. This means the deployment starts by connecting Infinity to your existing voice infrastructure through secure APIs, SIP endpoints, and data connectors. The orchestration layer then acts as the "brain" that coordinates routing, AI models, digital channels, and workflow automation across the enterprise.

## Major Components

A major technical component of the deployment is the *Model Context Protocol (MCP)*, which Avaya uses to unify multiple AI engines into a single, context-aware system. MCP allows Infinity to coordinate generative AI, natural-language understanding, sentiment analysis, predictive routing, and knowledge-base retrieval in real time. During deployment, MCP is configured to connect to internal data sources (CRM, billing, ticketing, knowledge bases) and external AI services. This creates a shared context layer so that every AI component — whether it's a virtual agent or an agent-assist tool — has access to the same customer history, intent signals, and interaction metadata.

From an infrastructure standpoint, Infinity supports hybrid, on-premises, and cloud-smart deployments, giving organizations flexibility depending on their regulatory and operational needs. In many enterprise deployments, the Infinity orchestration engine runs in a public cloud (Azure, AWS, or Google Cloud), while sensitive voice traffic and customer data remain on-premises. Avaya supports edge deployments using technologies like Azure Local, AWS Outposts, or Google Distributed Cloud, allowing Infinity to run AI and orchestration services close to the customer while maintaining strict data-sovereignty requirements. This hybrid model is especially valuable for Canadian organizations that must comply with federal and provincial privacy laws.

## Integration with Voice Routing & IVR

Once the orchestration layer is in place, the next phase involves integrating Infinity with the call center's voice routing, IVR, CRM, workforce systems, and digital channels. Infinity connects to Avaya Experience Portal or legacy IVRs to enhance them with AI-driven natural-language capabilities. It also integrates with CRMs such as Salesforce, ServiceNow, or Microsoft Dynamics to pull customer data into the interaction flow. Supervisors configure workflows using Infinity's visual designer, which allows them to build AI-powered journeys without writing code. This includes setting up virtual agents, defining escalation rules, configuring sentiment-based routing, and enabling real-time agent assistance.

During live operations, Infinity transforms the call center into what Avaya calls a "Connection Center" — a unified environment where AI, automation, and human agents work together seamlessly. AI-powered virtual agents handle routine inquiries, reducing call volume and improving containment rates. When a

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customer needs a human agent, Infinity passes full context — including intent, sentiment, and interaction history — directly to the agent desktop. Agents receive real-time guidance, suggested responses, and knowledge-base recommendations powered by MCP-connected AI models. Supervisors gain access to real-time dashboards that show customer sentiment, queue performance, and agent behavior, enabling proactive decision-making rather than reactive firefighting.

Finally, the deployment of *Avaya Infinity* fundamentally changes how the call center evolves over time. Because the platform is **composable**<sup>14</sup>, organizations can add new channels, AI models, or workflows without major upgrades or infrastructure changes. Infinity's architecture allows enterprises to modernize at their own pace — keeping their existing Avaya systems while gradually adopting cloud-based AI capabilities. This makes Infinity one of the most flexible modernization paths available for large call centers that want to embrace AI without disrupting mission-critical voice operations.

## Step-by-Step Deployment Guide

### 1. Establish the Infinity Platform Core

Deployment begins by installing and configuring the ***Avaya Infinity* Orchestration Layer**, which becomes the central intelligence hub for all customer interactions. This layer is deployed either in a public cloud (Azure, AWS, Google Cloud), a private cloud, or a hybrid model depending on data-sovereignty requirements. SIP trunks, REST APIs, and secure connectors are configured to link Infinity with the existing Avaya Aura or Communication Manager environment. This allows Infinity to overlay the legacy system without replacing PBX, ACD, or routing logic.

### 2. Configure the Model Context Protocol (MCP)

The Model Context Protocol (MCP) functions as the central integration and coordination layer for Avaya Infinity's AI ecosystem. Within the deployment architecture, MCP establishes structured, secure interfaces between the Infinity platform and a wide range of AI subsystems, including generative AI engines, natural-language understanding (NLU) models, sentiment-analysis frameworks, and enterprise knowledge repositories. MCP also connects to operational data sources such as CRM platforms, customer-interaction histories, and domain-specific knowledge bases, ensuring that all AI components operate with consistent and authoritative information. Through these integrations, MCP provides a unified context model that synchronizes user intent, historical data, and system state across every interaction.

Beyond simple data exchange, MCP enables deterministic orchestration of AI behavior across the contact center environment. By maintaining a shared context layer, MCP allows routing engines, virtual agents,

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<sup>14</sup> When the Avaya Infinity platform is described as *composable*, it refers to an architectural model in which all functional capabilities—such as routing logic, AI services, workflow components, channel adapters, and data connectors—are delivered as modular, independent building blocks. Each component can be assembled, extended, or replaced without affecting the rest of the system, enabling rapid innovation and incremental deployment. This modularity is supported by API-driven integration, containerized microservices, and stateless execution patterns, allowing new features or workflows to be introduced without system downtime or large-scale upgrades. In a composable architecture, enterprises can tailor customer-interaction flows, add new AI capabilities, integrate external systems, or modify business logic dynamically, while maintaining operational continuity. This design principle allows Avaya Infinity to evolve alongside enterprise requirements and technology ecosystems, providing long-term flexibility and scalability.

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and real-time agent-assist tools to access the same customer profile, interaction metadata, and enterprise logic. This ensures that AI-driven decisions—such as intent classification, escalation triggers, or knowledge-base retrieval—are executed with continuity and precision. As a result, MCP supports advanced capabilities including intelligent routing, context-aware self-service automation, and real-time guidance for human agents, all of which depend on consistent, synchronized AI operations across the Infinity platform.

### 3. Deploy Hybrid Infrastructure

Most enterprises implement **Avaya Infinity** using a **hybrid deployment architecture**, designed to balance cloud-based AI capabilities with the operational and regulatory requirements of on-premises telephony systems. In this model, the **Infinity orchestration layer**, along with its AI engines, analytics services, workflow automation components, and digital-channel gateways, is deployed in a public or private cloud environment. This cloud-resident layer provides the computational elasticity required for large-scale AI inference, real-time journey orchestration, and omnichannel interaction management. It also enables rapid updates, centralized configuration, and integration with cloud-native services such as identity management, monitoring, and API gateways.

In contrast, the **on-premises environment** continues to host the latency-sensitive and compliance-critical components of the contact center. These typically include the **PBX**, **Avaya Communication Manager**, **ACD routing engines**, **call recording systems**, and any infrastructure responsible for handling raw voice traffic. By retaining these systems locally, organizations ensure deterministic call handling, maintain compatibility with existing SIP trunks and SBCs, and preserve control over sensitive customer audio streams. This separation also minimizes disruption to established telephony workflows while enabling Infinity to orchestrate interactions at a higher layer.

To bridge the cloud and on-premises domains, Avaya Infinity supports **edge computing deployments** using platforms such as **AWS Outposts**, **Azure Local**, and **Google Distributed Cloud**. These edge nodes allow AI inference, context processing, and workflow execution to occur physically closer to the customer interaction point, reducing round-trip latency and improving response times for real-time applications such as conversational AI and agent-assist services. Edge deployments also provide a mechanism for keeping regulated data—such as call recordings, customer identifiers, and interaction metadata—with national or provincial boundaries.

This capability is particularly critical for Canadian enterprises, where federal and provincial privacy regulations (e.g., PIPEDA<sup>15</sup>, PHIPA<sup>16</sup>, and provincial data-residency mandates) require strict control over data locality and cross-border data flows.

By combining cloud-based orchestration with on-premises telephony and edge-resident AI processing, the hybrid model enables organizations to modernize their contact centers incrementally. It provides a scalable,

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<sup>15</sup> Personal Information Protection and Electronic Documents Act

<sup>16</sup> Personal Health Information Protection Act

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compliant, and resilient architecture that supports advanced AI-driven customer experiences while preserving the stability and investment of existing Avaya infrastructure.

#### 4. Integrate Infinity with Existing Systems

The deployment of Avaya Infinity requires establishing structured, bidirectional integrations with all major subsystems that support the contact center's operational workflow. This begins with linking Infinity to the Avaya Experience Portal (AEP) or equivalent IVR infrastructure, enabling the orchestration layer to augment traditional menu-based call flows with AI-driven natural-language self-service. Through secure API endpoints and event streaming, Infinity can intercept IVR interactions, apply intent recognition, and dynamically route customers based on real-time context rather than static call trees. This integration ensures that legacy IVR capabilities are preserved while being enhanced with conversational AI and adaptive decision logic.

In parallel, Infinity is connected to enterprise CRM platforms such as Salesforce, Microsoft Dynamics, or ServiceNow. These integrations provide access to customer profiles, case histories, and transactional data, allowing Infinity's orchestration engine and AI models to operate with complete situational awareness. Additional connections are established with workforce management (WFM) and quality monitoring systems, enabling Infinity to incorporate agent availability, skill profiles, and performance metrics into routing decisions. This ensures that customer interactions are matched to the most suitable agent or automated workflow based on real-time operational conditions.

Infinity also integrates with a wide range of digital communication channels, including chat, SMS, email, and social messaging platforms. These channels are normalized through Infinity's orchestration layer, allowing AI-driven workflows to operate consistently across both voice and digital interactions. Finally, Infinity connects to enterprise databases that store customer profiles, interaction histories, and operational metadata. This data is used to maintain continuity across channels and sessions, enabling the platform to deliver context-aware experiences regardless of how or where the customer engages.

Collectively, these integrations allow Avaya Infinity to unify previously siloed systems into a single, orchestrated interaction fabric. By consolidating voice, digital, CRM, and operational data into a shared context model, Infinity enables seamless cross-channel journeys, intelligent routing, and consistent AI-driven automation throughout the contact center environment.

#### 5. Build AI-Driven Workflows and Journeys

The Infinity Visual Designer serves as the primary development and orchestration interface for supervisors, solution architects, and CX engineers responsible for building and maintaining customer-interaction workflows. This design environment provides a low-code, model-driven framework that abstracts underlying APIs, routing logic, and AI services into configurable components. Using this interface, teams can construct AI-powered virtual agents that leverage natural-language understanding, generative AI, and enterprise knowledge sources. These virtual agents are configured to handle intent recognition, dialog management, and transactional workflows, enabling automated self-service across both voice and digital channels.

In addition to virtual agents, the visual designer enables the creation of intelligent routing policies that incorporate real-time operational data, customer attributes, and AI-derived insights. Routing logic can be configured to evaluate sentiment scores, interaction history, agent skill profiles, queue conditions, and business rules before determining the optimal path for each customer. This includes sentiment-based escalation, where negative sentiment or frustration indicators—detected through speech analytics or text-based NLU—trigger automated handoffs to specialized agents or supervisory teams. These escalation paths can be further enriched with contextual metadata to ensure that agents receive complete interaction context at the moment of transfer.

The platform also supports the development of real-time agent-assist workflows, which provide live guidance, recommended responses, and knowledge-base retrieval during active customer interactions. These workflows are powered by the Model Context Protocol (MCP), allowing AI models to access customer data, prior interactions, and enterprise logic in real time. Supervisors can configure triggers based on keywords, intent shifts, compliance requirements, or customer sentiment, enabling the system to proactively surface relevant information to agents without manual intervention.

Finally, the visual designer allows architects to model end-to-end omnichannel customer journeys, ensuring that interactions remain consistent across voice, chat, SMS, email, and social messaging platforms. Each channel is represented as a modular component within the designer, allowing workflows to branch, merge, or synchronize based on customer behavior and system events. Because Avaya Infinity is built on a composable architecture, these workflows can be deployed, modified, or extended without requiring system downtime, code rewrites, or major platform upgrades. This modularity enables continuous innovation and rapid iteration, allowing enterprises to adapt their customer-experience strategies with minimal operational disruption.

## 6. Go Live and Optimize

Once Avaya Infinity is fully deployed, the platform assumes the role of the central orchestration engine for all customer interactions across voice and digital channels. The system begins by routing initial engagement through AI-driven virtual agents, which are powered by natural-language understanding, generative AI, and enterprise knowledge sources. These virtual agents are capable of handling routine inquiries, performing transactional tasks, and gathering contextual information before escalating to a human agent when required. Because they operate within Infinity's orchestration layer, they can access CRM data, interaction history, and business rules in real time, ensuring that automated interactions remain consistent with enterprise policies and customer-experience objectives.

During live interactions, the Model Context Protocol (MCP) enables Infinity's AI components to deliver real-time guidance to human agents. MCP synchronizes customer context—including prior interactions, sentiment indicators, intent classification, and CRM attributes—across all AI models involved in the workflow. This allows the agent-assist engine to surface recommended responses, compliance prompts, and knowledge-base articles dynamically as the conversation unfolds. The system continuously evaluates speech patterns, text inputs, and behavioral cues to adjust guidance, ensuring that agents receive relevant support without manual searching or workflow interruption.

Infinity also enhances routing precision by incorporating **sentiment and intent analytics** into its decision-making processes. As customers interact with virtual agents or human agents, the platform analyzes emotional tone, urgency, and intent signals using AI-based classifiers. These insights feed directly into the routing engine, enabling context-aware escalation paths, skill-based agent selection, and priority adjustments. For example, negative sentiment or high-complexity intent may trigger immediate routing to specialized teams or supervisors, while routine or low-complexity interactions remain automated.

Supervisors gain operational visibility through **real-time dashboards** that aggregate performance metrics, queue conditions, sentiment trends, and workflow efficiency indicators. These dashboards are fed by continuous event streams from both the legacy telephony environment and Infinity's cloud-based orchestration layer. Supervisors can monitor agent performance, detect emerging customer-experience issues, and intervene proactively when service levels degrade. The dashboards also provide drill-down capabilities for analyzing individual interactions, identifying bottlenecks, and validating the effectiveness of AI-driven automation.

Finally, Infinity supports **continuous optimization** through its analytics and feedback mechanisms. Interaction data, routing outcomes, and AI performance metrics are captured and fed into the analytics engine, allowing architects to refine workflows, adjust routing logic, retrain AI models, and update virtual-agent behavior. Because Infinity is built on a composable architecture, these updates can be deployed without downtime or service disruption. Over time, this iterative tuning process transforms the traditional call center into a **Connection Center**, where AI, automation, and human agents operate as a unified system to deliver seamless, context-aware customer experiences.

## Insights and Lessons Learned from Real-World Deployments

### Lessons Learned

Real-world deployments of Avaya Infinity consistently highlight the importance of thorough infrastructure readiness and cross-platform integration planning. Organizations that approached the rollout with a clear understanding of their existing telephony, CRM, and workflow systems experienced smoother transitions and fewer service disruptions. A recurring insight is that Infinity's cloud-native architecture delivers significant flexibility, but only when network capacity, SBC configurations, and SIP routing are carefully validated in advance. Teams that invested early in interoperability testing—especially with legacy Avaya Aura components or third-party applications—reported faster stabilization and more predictable performance outcomes.

### Effective Change Management

Another key lesson learned is the critical role of change management and user adoption in achieving the platform's full value. Contact centers that paired technical deployment with structured agent training, workflow redesign, and iterative feedback loops saw measurable improvements in agent productivity and customer experience. Conversely, deployments that focused solely on the technical cutover often faced resistance, underutilized features, or inconsistent service quality. Across multiple implementations, the most successful organizations treated Avaya Infinity not just as a technology upgrade but as an opportunity

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to modernize processes, enhance automation, and build a more resilient and scalable customer engagement environment.

## Key Challenges Encountered During Implementation

Deploying Avaya Infinity in a call center environment often reveals several technical challenges that organizations must navigate carefully. One of the most common issues involves integrating Infinity with existing telephony infrastructure, especially when legacy Avaya Aura components, on-prem SBCs, or older CRM systems are still in use. Mismatched protocols, inconsistent SIP behavior, and network readiness gaps can lead to call routing failures, media path issues, or degraded voice quality. Ensuring that firewalls, SBC policies, and SIP trunk configurations are aligned with Infinity's cloud-native architecture requires detailed planning and extensive pre-deployment testing. Organizations that underestimate this integration complexity frequently encounter delays and unexpected troubleshooting cycles during cutover.

### Operational Readiness

Another significant challenge arises from operational readiness and the need to redesign workflows to fully leverage Infinity's capabilities. Many call centers attempt a "lift-and-shift" approach, only to discover that their existing routing logic, agent workflows, or reporting structures do not translate cleanly into the new platform. This often results in inconsistent agent experiences, incomplete automation flows, or gaps in analytics visibility. Additionally, user adoption can become a bottleneck when agents and supervisors are not adequately trained on the new interface, digital channels, or workflow tools. Without structured change management, even a technically successful deployment can struggle to deliver the expected improvements in efficiency or customer experience.

### Performance Optimization

A final challenge relates to performance optimization and ongoing governance. Because Avaya Infinity is highly modular and API-driven, organizations must establish clear ownership for monitoring, incident response, and continuous improvement. Call centers that lack mature operational processes may face recurring issues such as fluctuating call quality, misconfigured workflows, or delays in resolving integration-related incidents. Over time, these challenges highlight the importance of strong cross-functional coordination between network teams, application owners, and contact center leadership to ensure the platform remains stable, scalable, and aligned with evolving business needs.

## Mitigation Strategies and Best-Practice Patterns

### Early Evaluation

Successful implementation of Avaya Infinity in a call center depends heavily on adopting proactive mitigation strategies that address both technical and operational risks. One of the most effective approaches is conducting a comprehensive readiness assessment before deployment, including network capacity validation, SBC configuration reviews, and SIP interoperability testing. This early evaluation helps identify bottlenecks such as firewall restrictions, codec mismatches, or latency issues that could disrupt call flows once the platform goes live. Establishing a controlled pilot environment is another best-practice pattern,

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allowing teams to validate routing logic, digital workflows, and integrations with CRM or workforce management systems before scaling to full production.

Equally important is adopting a structured change-management framework that prepares agents, supervisors, and IT teams for the transition. Organizations that invest in targeted training, clear communication plans, and iterative feedback loops consistently report smoother adoption and fewer post-deployment issues. Standardizing workflows and documentation—such as call routing maps, API integration guidelines, and escalation procedures—helps maintain consistency across teams and reduces the risk of configuration drift. Continuous monitoring and analytics also play a critical role; by establishing dashboards for call quality, workflow performance, and system health, call centers can quickly detect anomalies and take corrective action before they impact customer experience.

## **Collaboration**

Finally, collaboration between cross-functional teams is a recurring best-practice pattern in successful deployments. Network engineers, application developers, contact center operations, and vendor support teams must work in sync throughout the implementation lifecycle. Regular governance meetings, shared testing plans, and clearly defined ownership for each integration point help prevent gaps that often lead to delays or service degradation.

By combining technical rigor with strong operational coordination, organizations can significantly reduce deployment risks and unlock the full value of Avaya Infinity's cloud-native capabilities.

## **Impact on Agent Productivity and Customer Experience**

### **Agents' Productivity**

The deployment of Avaya Infinity typically leads to measurable improvements in agent productivity by consolidating tools, channels, and customer data into a unified interface. Agents benefit from reduced system navigation, fewer manual steps, and streamlined workflows that allow them to focus on resolving customer issues rather than managing disparate applications. Features such as intelligent routing, contextual data sharing, and AI-assisted guidance help agents handle interactions more efficiently, resulting in lower average handling times and higher first-contact resolution rates. These operational gains also contribute to reduced cognitive load, enabling agents to perform more consistently and with greater accuracy.

### **Customer Experience**

Customer experience also improves significantly as Avaya Infinity enhances the speed, personalization, and continuity of service. The platform's omnichannel capabilities ensure that customers can move seamlessly between voice, chat, email, and digital channels without repeating information or losing context. Intelligent routing directs customers to the most suitable agent or automated workflow, reducing wait times and improving satisfaction.

Additionally, real-time analytics and monitoring allow supervisors to identify service bottlenecks, optimize staffing, and refine workflows based on actual performance trends. Over time, these enhancements create

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a more responsive and customer-centric environment, strengthening overall service quality and customer loyalty.

## Recommendations for Future Deployments

Future deployments of Avaya Infinity will benefit from adopting a more iterative and data-driven implementation approach. Organizations should prioritize continuous assessment of network performance, workflow efficiency, and integration stability rather than treating deployment as a one-time event.

### Structured Governance Model

Establishing a structured governance model—complete with defined ownership for routing logic, API integrations, and analytics—helps ensure that the platform evolves in alignment with business needs. Regular performance reviews, combined with proactive capacity planning, allow call centers to anticipate growth, optimize resource allocation, and maintain consistent service quality as customer interaction volumes fluctuate.

### Training and User-experience

Another key recommendation is to invest in ongoing training and user-experience refinement. As Avaya Infinity introduces new features and automation capabilities, agents and supervisors must be equipped to leverage them effectively. Creating a feedback loop where frontline staff can report usability issues or suggest workflow improvements enables organizations to continuously refine their operational model. Additionally, future deployments should emphasize modular integration strategies that allow new digital channels, AI tools, or third-party applications to be added without disrupting existing services. This flexibility ensures that the call center remains adaptable and capable of adopting emerging technologies.

### Phased Rollout Strategy

Finally, organizations should consider adopting a phased rollout strategy for future deployments, starting with low-risk queues or digital channels before expanding to mission-critical operations. This approach reduces implementation risk and provides valuable insights into how Infinity behaves under real-world conditions. By combining technical rigor, strong change-management practices, and a commitment to continuous improvement, call centers can maximize the long-term value of Avaya Infinity and ensure that future deployments deliver measurable gains in efficiency, scalability, and customer experience.

## Conclusion

Deploying *Avaya Infinity* into an existing Avaya contact center represents a strategic evolution rather than a disruptive overhaul. By layering cloud-smart orchestration, AI-driven intelligence, and omnichannel workflow automation on top of established platforms like Aura, Communication Manager, and Elite, organizations can modernize their customer-experience capabilities without abandoning the stability and reliability of their current telephony infrastructure. Infinity enhances what is already in place—bringing contextual routing, virtual agents, real-time agent assistance, and analytics into an environment that has traditionally relied on static call flows. This hybrid approach allows enterprises to unlock advanced capabilities at their own pace while preserving the operational continuity that mission-critical contact centers demand.

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Ultimately, the integration of *Avaya Infinity* transforms the contact center into a more adaptive, insight-driven, and customer-centric ecosystem. AI, automation, and human expertise begin to operate as a unified system, enabling faster resolution, more personalized interactions, and more efficient use of agent resources. Supervisors gain deeper visibility, architects gain greater flexibility, and customers experience smoother, more connected journeys across channels. Infinity's composable architecture ensures that the environment can continue to evolve—absorbing new technologies, channels, and AI models as business needs change—positioning the organization for long-term innovation and competitive advantage.

## Appendix A:

### Main Technical Steps in Deploying Avaya Infinity in an Existing Contact Center

#### 1. Establish the Infinity Orchestration Layer

- Deploy the **Infinity platform** in a cloud, private cloud, or hybrid environment.
- Configure secure connectivity (SIP, REST APIs, Webhooks) between Infinity and existing Avaya Aura/Communication Manager.
- Set up authentication, certificates, and network routing to allow bidirectional communication.

#### 2. Configure the Model Context Protocol (MCP)

- Connect MCP to AI engines (generative AI, NLU, sentiment analysis).
- Integrate MCP with enterprise data sources such as CRM, knowledge bases, and customer history repositories.
- Define context-sharing rules so AI models operate with continuity across channels and interactions.

#### 3. Integrate Infinity with Legacy Avaya Systems

- Connect Infinity to ACD, IVR, Experience Portal, and call routing logic.
- Map call flows so Infinity can orchestrate journeys without replacing existing telephony infrastructure.
- Enable event streaming from legacy systems to Infinity for real-time context and analytics.

#### 4. Deploy Hybrid Infrastructure Components

- Keep voice traffic and sensitive data **on-premises** while running AI and orchestration in the cloud.
- Use edge technologies (e.g., AWS Outposts, Azure Local) if low latency or data sovereignty is required.
- Configure firewalls, SBCs, and network segmentation to support hybrid operation.

#### 5. Integrate CRM, Digital Channels, and Databases

- Connect Infinity to CRM systems (Salesforce, Dynamics, ServiceNow).
- Enable digital channels such as chat, SMS, email, and social messaging.
- Link customer databases and interaction history for unified context.

#### 6. Build AI-Driven Workflows and Routing Logic

- Use Infinity's visual designer to create:
  - Virtual agents
  - Intelligent routing rules
  - Sentiment-based escalation
  - Real-time agent assists workflows

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- Define omnichannel journeys that span voice and digital interactions.

## 7. Configure Agent Desktop and Supervisor Tools

- Deploy Infinity-enabled agent desktops with AI guidance and contextual screen pops.
- Set up supervisor dashboards for real-time sentiment, queue performance, and journey analytics.
- Integrate quality monitoring and workforce systems if required.

## 8. Conduct Testing, Cutover, and Optimization

- Perform end-to-end testing of call flows, AI behavior, routing, and failover.
- Gradually migrate traffic to Infinity-orchestrated flows.
- Continuously tune workflows using analytics, AI insights, and operational feedback.

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