Market Guide for Contact Center Infrastructure

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Initiatives: Customer Service and Support Technology

The COVID-19 pandemic has accelerated cloud adoption in the contact center market. However, on-premises and hosted remain the preferred deployment models for some. This Market Guide helps application leaders to differentiate the associated vendors based on their breadth of offerings.

Overview

Key Findings

- Demand for contact center infrastructure (CCI) systems based on customer premises equipment (CPE) continues to decline, sped along by the global pandemic and the need to support work-from-home (WFH) agents.
- Most CCI deployments either take the form of major upgrades by incumbent vendors or transitions from on-premises to single-tenant private cloud deployments.
- Deals are increasingly being structured with subscription based licensing services rather than the traditional perpetual license model.
- Enterprises are increasingly looking for customer service solution sets that extend beyond contact routing to include tightly integrated and/or native functionality across Gartner’s four pillars of great customer service.
- An increasingly common strategy among vendors offering both CCI and cloud-based solutions is to greatly reduce development of their CCI solutions and offer innovative functionality developed on their cloud-based systems via a hybrid on-premises/cloud deployment.

Recommendations

As an application leader responsible for customer service and support technology and evaluating CCI vendor offerings, you should:

- Focus on each CCI vendor’s ability to support all four pillars of great customer service.
- Place higher value on solution sets that maximize the use of native rather than partner-delivered functionality (unless the partner delivers a unique service that is essential to the business).
Market Definition
The contact center infrastructure (CCI) market covers solutions that include the equipment, software and services that enable customer service organizations to manage multichannel customer interactions holistically (using self-service and assisted service) from a customer experience and an employee engagement perspective.

Central to the definition of CCI is that the solutions are dedicated to supporting a single customer or tenant on each instance of the system, even if that customer or tenant supports multiple contact center operations on that dedicated instance. CCI solutions are used by customer service and telemarketing centers, employee service and support centers, help desk service centers and other types of structured communications operations.

Market Description
CCI includes a wide range of related technologies, some of which are offered based on a vendor’s own intellectual property, and some integrated through OEM or partnership relationships with best-of-breed providers. At a minimum, to be included in this document, vendors must support multimedia contact routing functionality.

CCI technology areas can include:

- Telephony infrastructure
  - IVR and voice portals for self-service applications, including speech-enabled self-service
  - Outbound dialing/proactive contact
  - Virtual routing applications for multisite and WFH scenarios
  - Digital channel routing technologies
- Multimedia contact routing and prioritization engines with real-time and historical reporting

Scrutinize the strengths, challenges and costs of each vendor’s ability to support WFH deployment options.

Plan your contact center investment strategy based on the understanding that your next CCI purchase or renewal could be your last, as in the next three to five years, multitenant public cloud solutions will likely be able to support the customer service and support needs of all but the very largest and most complex contact centers.

Optimize the cost of your next contract term by evaluating a continuance of software support versus migrating to consumption licensing, in the knowledge that your CCI needs are likely to change over the next few years.
- Computer-telephony integration/web services interfaces (including tools for integration with CRM software)
- Presence tools
- Email response management
- Web chat
- SMS
- Collaborative interfaces/co-browsing
- Social engagement
- Live chat and video chat
- Prerecorded video
- Chatbots and virtual customer assistants
- Workflow routing and management
- Mobile customer service applications

- Workforce engagement management (WEM) technologies
  - Workforce management scheduling tools
  - Session recording and quality monitoring, including speech analytics
  - Coaching and e-learning
  - Recruitment and onboarding
  - Voice of the employee

- Knowledge and analytics technologies
  - Knowledge management
  - Sentiment analysis
  - Datamart and analytics systems
  - Customer service analytics (including speech, text, customer journey analytics and next best action)

**Market Direction**
The vast majority of contact center decision makers who prefer CCI solutions already have CCI systems in place. When faced with the requirement to make significant and expensive upgrades to these existing systems (often requiring investments well into the millions of dollars), the decisions revolve around whether to stay with an existing vendor, or migrate to an alternative vendor’s offerings. In many cases, they are also making a decision of whether to select an on-premises solution or a hosted/managed (“private cloud”) deployment model. For many companies evaluating CCI solutions, their next on-premises CCI purchase or maintenance renewal will be their last, as multitenant solutions will likely be able to support the customer service and support needs of even the largest and most complex contact center operations.

Many CCI vendors have also evolved their pricing models to include license subscription services as an alternative to the traditional perpetual license plus maintenance approach — and some will now only support the traditional model on an exception basis. This model helps to lower the upfront costs for major upgrades.

The COVID-19 pandemic has forced many organizations to support agents working from home or from other locations. This exposed weaknesses in supporting these configurations for many CCI deployments. While most CCI vendors were able to assist their customers with making configuration changes to support WFH, in numerous cases the changes required making expensive and unplanned upgrades to their existing configurations. As a result, contact centers that are upgrading or extending existing CCI investments must place additional scrutiny on evaluating vendors’ flexible working capabilities and costs, both of which may have evolved since the start of the pandemic.

**Market Analysis**

Organizations across many sectors are increasingly striving to create competitive differentiation and drive customer loyalty based on a superior customer service experience. As a result, customer expectations are evolving to demand consistent, personalized, intelligent and effortless experience in their customer service interactions. In the course of developing a customer service and support technology architecture, solutions can be broadly categorized into one of four key functional groupings (see Figure 1).

These functional groupings include:

- Getting connected
- Process orchestration
- Managing resources
- Knowledge and insights
Figure 1. Customer Service and Support Technology Functional Groupings

Getting Connected

CCI vendors have traditionally focused their solutions on getting connected (see The Future of the Contact Center). Having originally focused on the routing of phone calls, these vendors have added routing of digital interactions including email, webchat, SMS, social messaging, video chat and web collaboration over time. In some cases they will integrate with CRM and/or best-of-breed digital channel point solutions to form a multivendor routing environment (see Select the Best Approach for Connected Customer Service Experiences). In recent years, many CCI vendors have added the ability to track customer journey activities outside of the routing environment to include customer activity on websites and mobile apps. There is also increased market awareness of using artificial intelligence (AI) to make more accurate routing decisions to match a given customer with the best-matched agent or application.

Process Orchestration

Process orchestration largely takes the form of increasingly tighter integration with CRM customer record systems. It can also involve the use of the CCI vendor’s agent desktop as the point of data and process orchestration between multiple CRM systems and other enterprise software systems such as ERP, billing, inventory, field service tracking and others.

Knowledge and Insights

Virtually all CCI vendors offer some level of custom reporting, including the ability to integrate with data from other systems such as CRM, sales and marketing databases. However, most will rely on third-party business intelligence tools to enable deeper analysis of their data to, for example, provide “next best action” advice to agents, virtual customer assistant (VCAs) and/or customers, or discover nonintuitive correlations between events and outcomes. As in other areas, emerging AI and machine learning capabilities hold the promise of unlocking additional analytical insights, both within the CCI dataset and
in cross-organizational data lake environments. Relatedly, most CCI vendors currently rely on third-party knowledge management systems to deliver more advanced knowledge units than those provided through static FAQ lists.

Managing Resources

For a number of years, we have seen CCI vendors — as well as CCaaS vendors — adding broad WEM suites, or portions of those suites (such as recording and analytics) via natively developed functionality or through acquisition. However, at present, we are seeing more CCaaS vendors than CCI vendors adding WEM functionality to their core offering sets as opposed to simply integrating with a variety of third-party WEM suites and point solutions. This can result in higher customization costs associated with providing tight integration between the CCI and WEM systems as compared to CCaaS/WEM systems.

Representative Vendors

*The vendors listed in this Market Guide do not imply an exhaustive list. This section is intended to provide more understanding of the market and its offerings.*

Market Introduction

This initial Market Guide represents an evolution of a very mature market and was previously covered in the form of a Magic Quadrant. The lack of new vendors entering the space, the relative stability of the placement of the vendors on that quadrant, and the growing market preference for public cloud CCaaS solutions warranted a reevaluation of our market coverage (see Note 1).

Table 1 contains six representative vendors and their CCI offerings.
Table 1: Representative Vendors in Contact Center Infrastructure

<table>
<thead>
<tr>
<th>Vendor</th>
<th>Product, Service or Solution Name</th>
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<tbody>
<tr>
<td>Aspect Software</td>
<td>Aspect Unified IP</td>
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<td>Aspect Via (public and private cloud)</td>
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<td>Avaya</td>
<td>Avaya Contact Center Portfolio</td>
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<td>Avaya Oceana Solution</td>
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<td>Avaya Aura Call Center Elite</td>
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<td>Cisco</td>
<td>Cisco Unified Contact Center Enterprise</td>
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<td>Cisco Unified Contact Center Express</td>
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<td>Enghouse</td>
<td>Communications Center (CC)</td>
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<td>Contact Center: Enterprise (CCE)</td>
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<td>Genesys Engage</td>
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<td>PureConnect</td>
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<td>Huawei</td>
<td>Cognitive Customer Engagement Center (CCEC)</td>
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<td>Artificial Intelligence Contact Center (AICC)</td>
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Source: Gartner (December 2020)

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Vendor Profiles

Aspect Software

Headquarters: Westford, Massachusetts, U.S.

Ownership: Private equity owned by Vector Capital

Product name: Aspect Unified IP; Aspect Via (public and private cloud)

Target scale of solution: Midsize and large implementations

Geographic agent shipment mix (2019): Aspect opted not to provide this information
Contact routing capabilities: Native multichannel routing

Primary CRM integrations: Salesforce, SAP, Oracle (Siebel), PeopleSoft, Oracle RightNow Technologies and Microsoft Dynamics 365

Primary WEM integrations:

- Partner: Call Miner, Interdiem

Analytics:

- Native: Aspect Engagement Analytics
- Partner: Call Miner, Lumenvox

Knowledge management: Aspect Knowledge Base

Aspect offers two key contact center solutions. The Aspect Unified IP interaction management platform is an on-premises, hosted and/or managed private cloud contact center application for midsize and large implementations. The Aspect Via Platform is a multitenant CCaaS offering. Both solutions support a broad set of native functions, including multichannel self-service and inbound multichannel routing and dialer capabilities, WEM, and offer multisession contact handling across voice, email, chat, SMS, IM and social channels. The company also generates a sizable portion of its business from the sales and support of stand-alone IVR/customer self-service and WEM solutions which can be deployed either on-premises or in the cloud.

Aspect's management team focuses its product development, sales and marketing efforts at preserving and migrating its installed base to public or private cloud versions of its solutions. Aspect continues to generate a significant portion of its license revenue from its on-premises Unified IP platform. On-premises solution users will be able to benefit from cloud-based innovation, as will customers investing directly in the Aspect Via cloud solution. Further innovation in terms of its CCaaS portfolio is currently a key strategy. Aspect primarily sells its CCI solutions directly, although it also has a network of select channel partners globally.

Avaya

Headquarters: Raleigh, North Carolina, U.S.

Ownership: Public company
Product name: Avaya Contact Center Portfolio; Avaya Oceana Solution; Avaya Aura Call Center Elite

Target scale of solution: Enterprise, small and midsize business

Geographic agent shipment mix (2019):

- 29% North America
- 28% Western Europe
- 18% Asia/Pacific
- 6% Latin America
- 9% Middle East and Africa
- 5% Japan
- 5% Eastern Europe

Contact routing capabilities:

- Native: Multichannel routing on multiple platforms
- Partner: Afiniti, eGain, Noble Systems

Primary CRM integrations: Bullhorn, Microsoft, Oracle, Salesforce, SAP, ServiceNow, SugarCRM, Zendesk

Primary WEM integrations:

- Native: Avaya Workforce Engagement
- Partner: Verint, Calabrio

Analytics:

- Native: Avaya Advanced Analytics (customer journey)
- Partner: Verint (speech analytics)

Knowledge management: Verint Knowledge Management

Avaya’s CCI offerings are centered on its Call Center Elite telephony platform, which can be augmented with an on-premises or cloud-based deployment of Avaya Oceana to deliver multichannel routing, as well as supporting its Avaya Advanced Analytics multichannel reporting and customer journey mapping.
functionality. Avaya Elite and Avaya Oceana both support Avaya Workspaces — a browser-based multichannel agent desktop interface. Launched several years ago, Avaya Oceana has seen limited deployments primarily by customers in select industries to improve the customer journey and experience, along with the employee experience. Evolution paths via Avaya Subscription to Avaya OneCloud CCaaS are available to existing Avaya customers. Avaya OneCloud CCaaS can be deployed as a public, private and hybrid cloud solution.

Avaya offers a dynamic widget library, which provides extensibility and interoperability with other applications such as CRM case management. AI capabilities include partnerships with Afiniti, Google, Noble Systems and Nuance. Avaya sells its CCI solutions both directly and, in large part, through a global network of channel partners.

Cisco

Headquarters: San Jose, California, U.S.

Ownership: Public company

Product name: Cisco Unified Contact Center Enterprise (UCCE); Cisco Unified Contact Center Express (Unified CCX)

Target scale of solution:

- UCCE: 24,000 agents per instance
- Unified CCX: 400 agents per instance

Geographic agent shipment mix (2019):

- 78% North America
- 14% EMEA
- 6% Asia/Pacific
- 2% Other

Contact routing capabilities:

- Native call and contact routing
- Partner: eGain, Upstream Works

Primary WEM integrations: Aspect, NICE, Calabrio, Teleopti and Verint
Analytics:

- Native: customer journey management (former CloudCherry)
- Partner: eGain analytics (customer journey), Verint (speech analytics), Calabrio Analytics (speech analytics), Upstream Works, and Clarabridge

Knowledge management: eGain Knowledge+AI

Cisco offers two contact center platforms with a common software codebase. Unified CCX is targeted at on-premises midsize implementations. UCCE (and Packaged UCCE) is targeted at large enterprise on-premises implementations as well as partner-hosted and cloud contact center offerings. Cisco also offers Webex CCE as a multicloud contact center platform for large enterprises, and Webex CC for midsize CCaaS deployments. Both Webex CCE and Webex CC can also be used to incorporate innovative contact center functionality, such as integration with AI and chatbot frameworks, as a cloud extension to on-premises and hosted/private cloud deployments.

Cisco’s contact center portfolio has lacked the investment applied to other parts of its business over the last decade. Historically, Cisco has chosen to rely on partnerships to offer a contact center suite solution. Recent changes in senior management show a renewed commitment to the contact center business, including acquisitions of AI-related companies such as Voicea, MindMeld and Cloud Cherry, which have been integrated into its contact center portfolio, enhancing its CCI offerings. The cloud-agnostic executives from the AI-related acquisitions now lead Cisco’s contact center business. Cisco has a number of partners globally that support organizations that are looking for greater external support for their on-premises or hosted contact center platforms. Communications service providers are especially strong partners for hosting UCCE as a cloud offering.

Enghouse Interactive

Headquarters: Toronto, Ontario, Canada

Ownership: Enghouse Interactive is a subsidiary of Enghouse Systems, a Canada-based public company

Product name: Communications Center (CC); Contact Center: Enterprise (CCE)

Target scale of solution:

- CC: 20-500 concurrent seats
- CCE: 100+ seats

Geographic agent shipment mix (2019):
Contact routing capabilities: Native multichannel routing

Primary CRM integrations: Packaged CRM plug-ins to Salesforce, SAP, Microsoft, ServiceNow

Primary WEM integrations:

- Native: Quality Management Suite
- Partner: Teleopti, CommunityWFM, Agyle Time, Verint, NICE, Aspect

Analytics:

- Native: Real-Time Speech Analytics, AI Insights (Eptica Vecko)
- Partner: Sisense

Knowledge management: Enghouse Interactive Knowledge Management Suite; Eptika Knowledge Base

Enghouse Interactive has two primary CCI platforms: Communications Center (CC) for midmarket and Contact Center: Enterprise (CCE) for complex enterprise solutions. Both platforms integrate with unified-communications-as-a-service (UCaaS) solutions from Microsoft (Teams and Skype for Business) and RingCentral, and Avaya and Cisco on-premises telephony environments. In addition, CC integrates to NEC telephony, while CCE also integrates to Mitel/Shoretel telephony. Both CC and CCE are offered on-premises or through a managed private cloud, and are available as either perpetual licenses or through a monthly service fee. Enghouse Interactive’s route to market for its CC and CCE platforms is largely through a global network of system integrators and resellers, and through direct sales efforts.

Enghouse Interactive achieves its size largely through market consolidation, having acquired multiple competitors over the years including CosmoCom, Apropos, Zeacom, Presence Technology, Datapulse, Voxtron and more recently Vidyo, Dialogic, Espail and ProOpti in the adjacent collaboration marketplace. It has also acquired Eptica for conversational and analytical AI. A market consolidation strategy can result in improved profitability for the vendor, but this has to be balanced with sufficient investment in research and development across a broad set of competing products for continued innovation for customers. Enghouse Interactive markets and delivers CCaaS solutions directly to end customers or
through reseller channel partners under the brand Enghouse Cloud. The company also supports CCaaS through global partners offering cloud contact center services based on the Contact Center: Service Provider platform.

**Genesys**

**Headquarters:** Daly City, California, U.S.

**Ownership:** Major private equity investment from Permira and Hellman & Friedman

**Product name:** Genesys Engage; PureConnect

**Target scale of solution:**
- Genesys Engage: 750 to 10,000+ agents
- PureConnect: 150 to 1,000+ agents

**Geographic agent shipment mix (2019):** Genesys opted not to provide this information

**Contact routing capabilities:**
- Native: Multichannel routing
- Genesys Engage Partners: Anana, Aria, iST, Mediu
- Genesys PureConnect Partners: Avtex, Nuance, and eMite

**Primary CRM integrations:**
- Genesys Engage: IBM, Oracle, Salesforce, SAP, Microsoft Dynamics 365, Oracle Service Cloud, Zendesk
- Genesys PureConnect: Salesforce, Zendesk, Microsoft Dynamics CRM, Oracle Service Cloud, SAP and Siebel

**Primary WEM integrations:**
- Native: WEM suite capability
- Genesys Engage Partners: Aspect, Calabrio (Teleopti), NICE, Verint, Prime Contact, Ideal Systems, Arc Consulting, CafeX, Komyunity, HireIQ, TouchPoint One

**Analytics:**
Genesys offers two CCI platforms. Genesys Engage has a multicloud architecture with deployment options for Amazon AWS, Microsoft Azure and Google Cloud Platform, as well as on-premises with container-based deployments. It supports contact centers with hundreds or thousands of agents, particularly those with complex customization requirements. PureConnect is offered on-premises or through private cloud, supporting contact centers operating up to thousands of agents, particularly for customers with moderately complex needs and who value a tightly integrated all-in-one platform. Both offerings natively support routing of voice and digital channels, or can integrate their voice routing functionality with digital channel routing from major CRM vendors. In 3Q20, Genesys announced that it had entered into a five-year agreement, in which Infosys will take responsibility for PureConnect’s product development and support cloud operations, while Genesys will retain its role in PureConnect’s sales, marketing, professional services and customer and partner success activities.

After years of stability in its senior management team, in 2Q19 Genesys installed a new CEO. Gartner finds that the company is notably more open to collaborating with channel and technology partners than under the previous management. In addition to selling and supporting its solutions directly, Genesys has partnerships with a number of global system integrators and communication service providers (CSPs) who sell and support Genesys Engage on-premises and in private cloud deployments, while its PureConnect deployments are supported by a network of global value added resellers (VARs).

**Huawei**

**Headquarters:** Shenzhen, China

**Ownership:** Privately held company

**Product name:** Cognitive Customer Engagement Center (CCEC); Artificial Intelligence Contact Center (AICC)

**Target scale of solution:** 20 to 50,000 agents
Geographic agent shipment mix (2019): Huawei opted not to provide this information

Contact routing capabilities: Native multichannel routing

Primary CRM integrations:

- Native: Unified Agent Desktop
- Partner: Tianyuan Dic Information Technology, Transfar Technology, Wicresoft

Primary WEM integrations:

- Native: Quality Management Suite
- Partner: Teleopti

Analytics:

- Native: Reporting and analytics
- Partner: Kafka

Knowledge management:

- Native: Knowledge management suite
- Partner: Emotibot, i-search

Huawei’s CCEC targets communications service providers (CSPs) on-premises, especially with complex customization requirements, and ranging from 20 up to more than 50,000 agents. Huawei AICC can be deployed on-premises, as a private cloud service or as a public cloud service targeting enterprise contact centers of all sizes. AICC and CCEC are all-in-one solutions and leverage Huawei’s investments across a variety of technology areas, such as AI and 5G, to provide a comprehensive set of functionality across all four pillars of customer service. These include Huawei’s own CRM, AI and video capabilities, although the solutions can be integrated to third-party systems on a custom basis.

Huawei currently sells CCEC and AICC mostly in the Asia/Pacific region (particularly in China), as well as Latin America, the Middle East and Africa. Solutions are sold primarily directly to end customers or through CSPs or independent software vendors (ISVs), and can provide significant system configuration and customization resources for deployments globally.

Market Recommendations
The CCI market is very mature, with few new vendors entering the space, and many evolving their product strategies to focus on the growing demand for CCaaS solutions. For many companies, their next CCI purchase will be their last, as multitenant solutions will probably be able to support the customer service and support needs of even the largest and most complex contact center operations by the time the next purchase/major upgrade cycle comes to pass. However, customer expectations for excellent customer service continue to increase. As such, it is important to view CCI solutions as playing an integral role in a broader CSS technology ecosystem, and not as siloed call routing solutions.

**Note 1: Representative Vendor Selection**

Vendors included in this Market Guide are those that exhibit:

- Broad solution capabilities for self-service and assisted customer service across both voice and digital interaction channels.
- Product and service revenue of more than $75 million in the calendar year 2019.
- Strong global presence, including evidence of sales, marketing and operational presence in at least three major geographic regions.
- Ability to generate significant interest by leading client market segments. These vendors may also have received the most client interest during Gartner inquiries.

**Document Revision History**

*Market Guide for Contact Center Infrastructure - 5 August 2019*

**Recommended by the Authors**

*The Future of the Contact Center*

*Select the Best Approach for Connected Customer Service Experiences*

*Forecast Analysis: Contact Centers, Worldwide*

*Adopt a Pace-Layering Application Approach to Evaluate Your Cloud Contact Center Options*