The Forrester New Wave™: Conversational Computing Platforms, Q2 2018

The Seven Providers That Matter Most And How They Stack Up

by Rob Koplowitz and Michael Facemire
April 12, 2018

Why Read This Report

In Forrester's evaluation of the emerging market for conversational computing platforms, we identified the seven most significant providers — Amazon, Google, IBM, Microsoft, Nuance Communications, Oracle, and Rulai — in the category and evaluated them. This report details our findings about how each vendor scored against nine criteria and where they stand in relation to each other. Application developers should use this review to select the right partners for their conversational computing platform needs.

Key Takeaways

IBM Leads The Pack

Forrester's research uncovered a market in which IBM leads the pack. Amazon, Google, Microsoft, and Nuance Communications offer competitive options. Oracle offers a strong option for certain applications, while Rulai lags.

The Market Is Still In Its Infancy

As this nascent market matures, some vendors will specialize, and others will flex their muscles. Amazon and Google, in particular, are poised to exploit their dominant market positions in cloud, data, and AI.

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by Rob Koplowitz and Michael Facemire
with Christopher Mines, Sara Sjoblom, Diane Lynch, and Peter Harrison
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Conversational Computing Is Becoming A Critical Application Capability

Voice and chat interactions are quickly moving into the mainstream. The ability to talk to devices at home; request information through a chat interface; and place an order while driving a car, using only your voice — as well as a host of other use cases — are moving from the realm of science fiction into daily life. As voice becomes a commonplace means of interacting with computing systems, application developers must gear up to deliver this increasingly critical functionality.

Vendors of conversational computing platforms range from the largest and most prominent cloud software development players to specialized solution providers with development platforms to niche vendors that offer unique and powerful capabilities.[1] All provide tools that allow application developers to create customized voice and chat experiences without the need for data scientists. Faced with a thriving, albeit chaotic, vendor market and increasing demand for conversational functionality, it's important that developers place their bets on the appropriate platforms.

Conversational Computing Platforms Evaluation Overview

We evaluated offerings against nine criteria, which we grouped into three categories: current offering, strategy, and market presence (see Figure 1).

We included seven vendors in this assessment: Amazon, Google, IBM, Microsoft, Nuance Communications, Oracle, and Rulai (see Figure 2 and see Figure 3). Each of these vendors has:

› **End-to-end conversational computing platform functionality.** Each vendor must offer products, partnerships, and/or integration capabilities to drive an end-to-end conversational solution.

› **A robust development environment for applications.** Offerings must be accessible as standalone development environments that offer software developers the tools to build complete custom applications.

› **Relevance to Forrester clients.** In a market with a huge number of offerings, we focused on those most relevant to Forrester clients, as indicated by frequency of client requests and use cases.

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FIGURE 1 Assessment Criteria

Criteria	Platform evaluation details
Breadth of services	Does the platform provide an array of capabilities to enable conversational computing solutions? Does it include speech-to-text, natural language processing, classification, natural language generation, tone, sentiment analysis, etc.?
Business user accessibility	Can a businessperson set up and maintain a conversational environment? What is the role of a professional developer in supporting the business user? How far can a businessperson go before handing off to dev? Is the platform supported by software configuration management?
Application development environment	What does the initial environment look like? Are there preconfigured dev environments, profiles, or recipes? How well do these environments follow or enable a webhook architecture pattern? Is there a local development option that can deploy to the cloud?
UX support	What devices are supported? Does the platform consume native voice streams? Does it provide embedded application support for Facebook, WeChat, and SMS? Can reusable components be developed once and then deployed to multiple clients?
Extensibility to back-end resources	Is the system preintegrated with any back-end systems? Can developers set up rules-based responses through dialog management? Does the platform maintain user context throughout the session? Does the platform support unexpected questions?
Analytics	Does the platform provide analytics to monitor the health of applications? Does it provide feedback and remediation recommendations when users are experiencing issues?
Geography/language support	Where are the data centers located? What are the plans and time frames for data center expansion? What languages/dialects are supported? What are the plans and time frames for expanding language/dialect support?
Product vision	How well does the product vision align with its buyers' need to win, serve, and retain customers? Does the vision enable great customer centricity/customer experience? How well does the vision align with current customer trends and future customer needs?
Product road map	Does the company have a near-term (approximately one year) plan to execute on its vision in product enhancements, innovation strategy, and partner ecosystem expansion? Does the company have the resources and capabilities to deliver on its stated road map?

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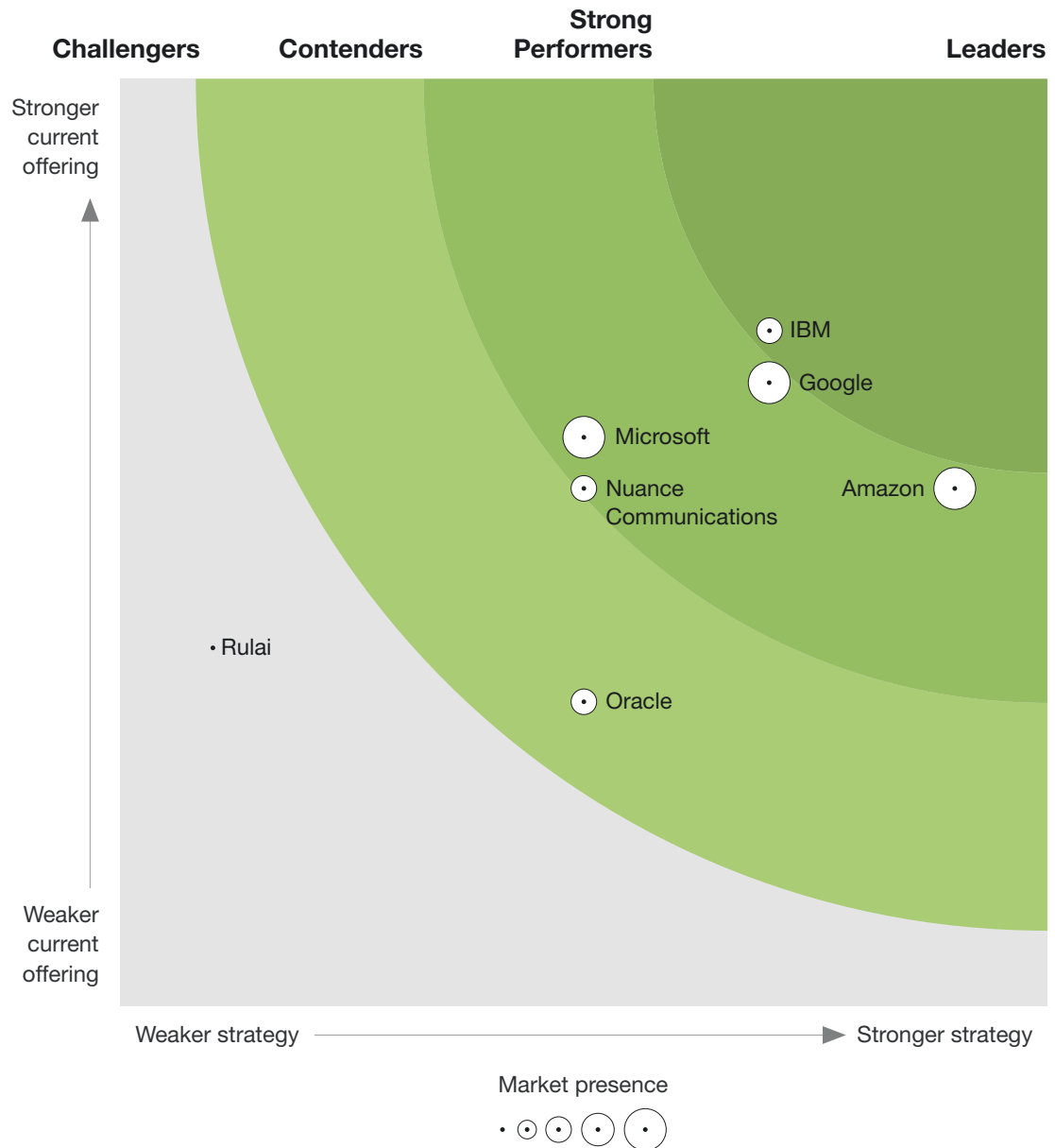**The Forrester New Wave™: Conversational Computing Platforms, Q2 2018**
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FIGURE 2 The Forrester New Wave™: Conversational Computing Platforms, Q2 2018

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FIGURE 3 Vendor QuickCard Overview

Company	Breadth of services	Business user accessibility	Application development environment	UX support	Extensibility to back-end resources	Analytics	Geography/language support	Product vision	Product road map
IBM	Differentiated	On par	Differentiated	On par	Differentiated	On par	Differentiated	On par	Differentiated
Amazon	On par	On par	Differentiated	Needs improvement	Differentiated	On par	On par	Differentiated	Differentiated
Google	On par	Differentiated	On par	Differentiated	On par	Differentiated	On par	Differentiated	On par
Microsoft	On par	Differentiated	Differentiated	On par	On par	On par	On par	On par	On par
Nuance Communications	Differentiated	Needs improvement	Needs improvement	Differentiated	Needs improvement	Differentiated	Differentiated	On par	On par
Oracle	On par	Needs improvement	On par	On par	On par	Needs improvement	Needs improvement	On par	On par
Rulai	Needs improvement	Differentiated	Needs improvement	Needs improvement	On par	On par	On par	Needs improvement	Needs improvement

⌃ Differentiated   ⊜ On par   ⌄ Needs improvement

Vendor QuickCards

Forrester evaluated seven vendors and ranked them against nine criteria. Here's our take on each.

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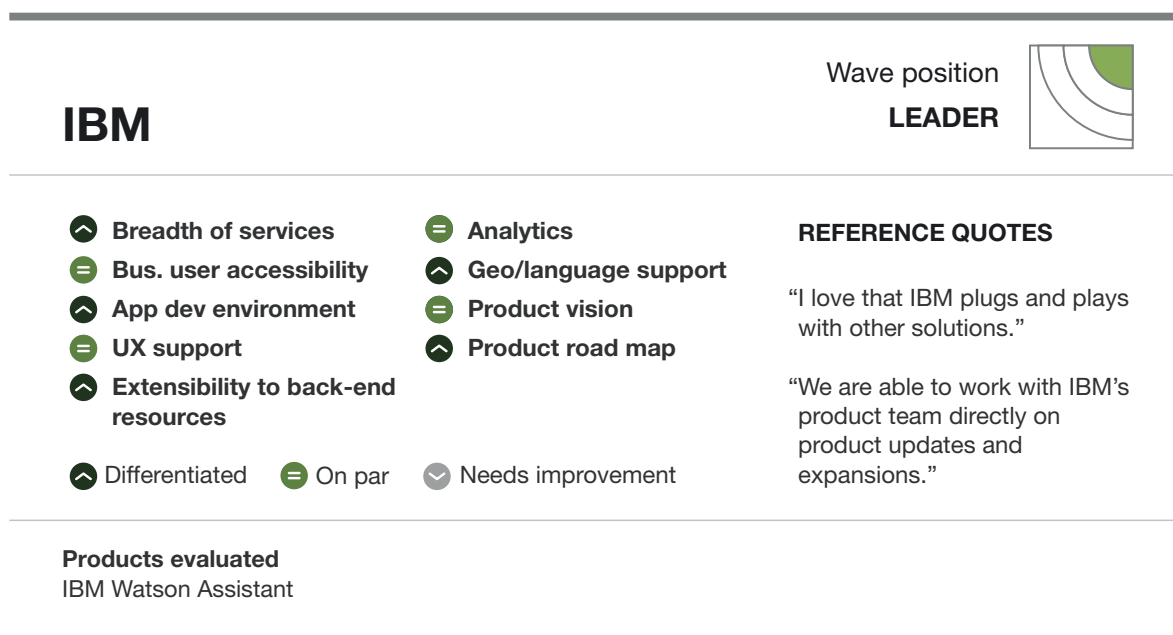The Seven Providers That Matter Most And How They Stack Up

IBM: Forrester's Take

Our evaluation found that (see Figure 4):

› **IBM's offering is comprehensive and developer friendly.** IBM Watson Assistant (formerly Watson Conversation) marries a technically robust conversational platform with developer-friendly tools and the breadth of the broader Watson portfolio. Coupled with strong developer tools, it enables creation of a wide range of solutions.

› **IBM's offering is less applicable to device and consumer applications.** Watson Assistant is less compelling outside of the enterprise, where vendors with widespread device deployments and consumer solution expertise will be better positioned.

› **IBM will thrive in complex environments.** IBM is very business-user friendly and offers powerful analytics to enable developers to continuously react to the changing state of conversations. This, along with IBM's enterprise and industry expertise, will drive the best use cases in its sweet spot of complex enterprise solutions.

IBM Customer Reference Summary

Customers appreciated Watson Assistant's readiness for integration into a broader enterprise architecture and IBM's thorough understanding of enterprise requirements in general.

FIGURE 4 IBM QuickCard

IBM

Wave position
LEADER

- ⌃ **Breadth of services**
- ⌃ **App dev environment**
- ⌃ **Extensibility to back-end resources**
- ═ **Bus. user accessibility**
- ═ **UX support**
- ═ **Analytics**
- ⌃ **Geo/language support**
- ═ **Product vision**
- ⌃ **Product road map**

⌃ Differentiated   ═ On par   ⌄ Needs improvement

REFERENCE QUOTES

"I love that IBM plugs and plays with other solutions."

"We are able to work with IBM's product team directly on product updates and expansions."

Products evaluated
IBM Watson Assistant

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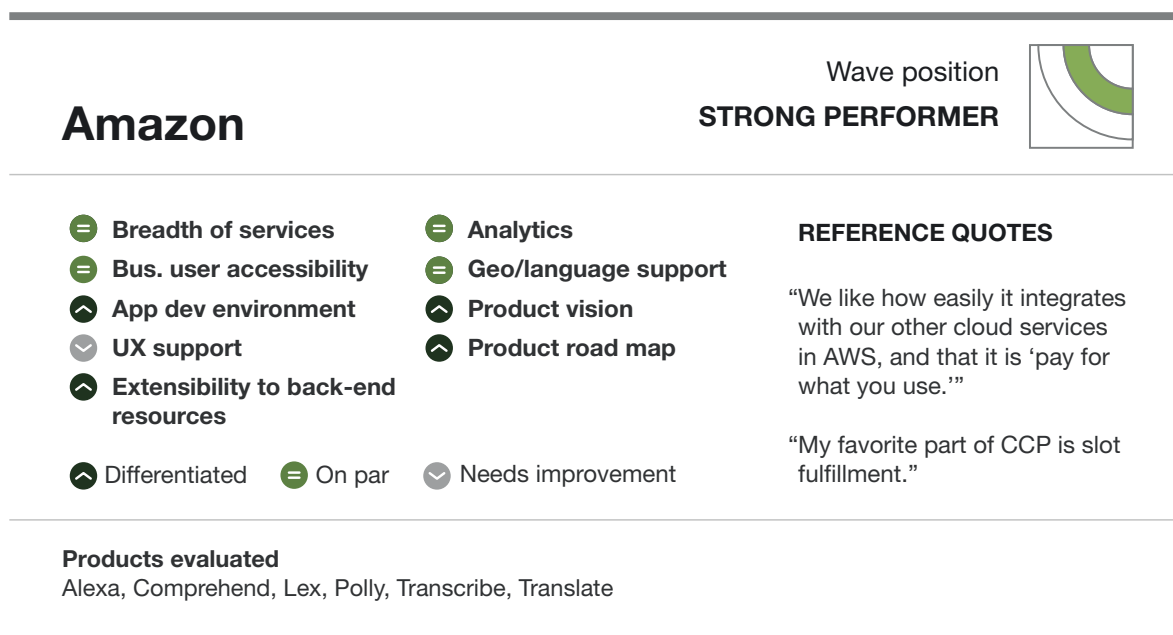The Seven Providers That Matter Most And How They Stack Up

Amazon: Forrester's Take

Our evaluation found that (see Figure 5):

› **Amazon's strong offering leverages AWS and Alexa's prominence.**[2] With 30,000 skills (and counting) on Alexa, Amazon also offers Lex for building customized voice and chat experiences on mobile devices and chat services. Developers like the breadth of capabilities as well as the ability to leverage AWS, particularly Lambda skills and investments.

› **Amazon will build upon AWS' success in the enterprise.** Alexa for Business will find success in the enterprise as a voice-controlled access mechanism. It will also have the edge in conversation-enabling new, AWS-based applications. It will leverage its integration capabilities to conversation-enable legacy applications.

› **Amazon fits AWS shops and/or those developing for Alexa.** Developers and Alexa momentum are driving Amazon's success in conversational computing. While you don't need to build an Alexa skill entirely on an Amazon stack, it's the first option to consider.

Amazon Customer Reference Summary

Customers liked that Amazon's conversational computing offerings fit with their broader AWS investments, easing integration and accelerating deployment cycles.

FIGURE 5 Amazon QuickCard

Amazon

Wave position
STRONG PERFORMER

- ⊜ **Breadth of services**
- ⊜ **Bus. user accessibility**
- ⌃ **App dev environment**
- ⌄ **UX support**
- ⌃ **Extensibility to back-end resources**

- ⊜ **Analytics**
- ⊜ **Geo/language support**
- ⌃ **Product vision**
- ⌃ **Product road map**

⌃ Differentiated   ⊜ On par   ⌄ Needs improvement

REFERENCE QUOTES

"We like how easily it integrates with our other cloud services in AWS, and that it is 'pay for what you use.'"

"My favorite part of CCP is slot fulfillment."

Products evaluated
Alexa, Comprehend, Lex, Polly, Transcribe, Translate

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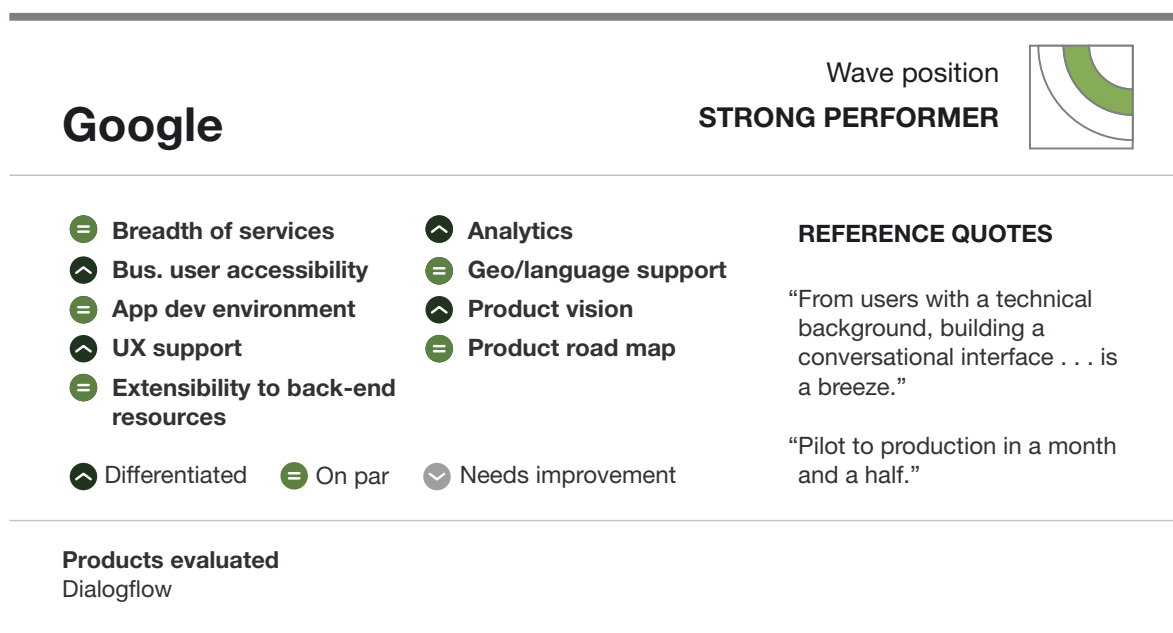The Seven Providers That Matter Most And How They Stack Up

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Google: Forrester's Take

Our evaluation found that (see Figure 6):

› **Google's Dialogflow is robust and easy to use.** Dialogflow (formerly API.AI) has become an industry standard for creating conversational applications. It appeals to developers but is also accessible to business users. Google's device footprint, with Google Assistant on its Android devices and its growing Google Home population, will become increasingly relevant.

› **There's a lot on the road map, including integration.** Google approaches conversational computing from a deep foundation in AI. It's in the process of further integrating Dialogflow into its broader offerings and will make Dialogflow Enterprise available later this year.

› **You should look to Google for Dialogflow and all of its AI capabilities.** Google's investments in TensorFlow; data center capabilities like the TensorFlow Process Unit (TPU) for faster training; and emerging developer tools like AutoML, which allow developers to address issues that previously only data scientists could; will all be part of Google's value.

Google Customer Reference Summary

Customers appreciated the simple user experience of building a Dialogflow application and how rapidly the platform was able to achieve high levels of conversational accuracy.

FIGURE 6 Google QuickCard

Google

Wave position
STRONG PERFORMER

⊜ Breadth of services	⌃ Analytics	**REFERENCE QUOTES**
⌃ Bus. user accessibility	⊜ Geo/language support	
⊜ App dev environment	⌃ Product vision	"From users with a technical background, building a conversational interface . . . is a breeze."
⌃ UX support	⊜ Product road map	
⊜ Extensibility to back-end resources		

⌃ Differentiated   ⊜ On par   ⌄ Needs improvement

"Pilot to production in a month and a half."

Products evaluated
Dialogflow

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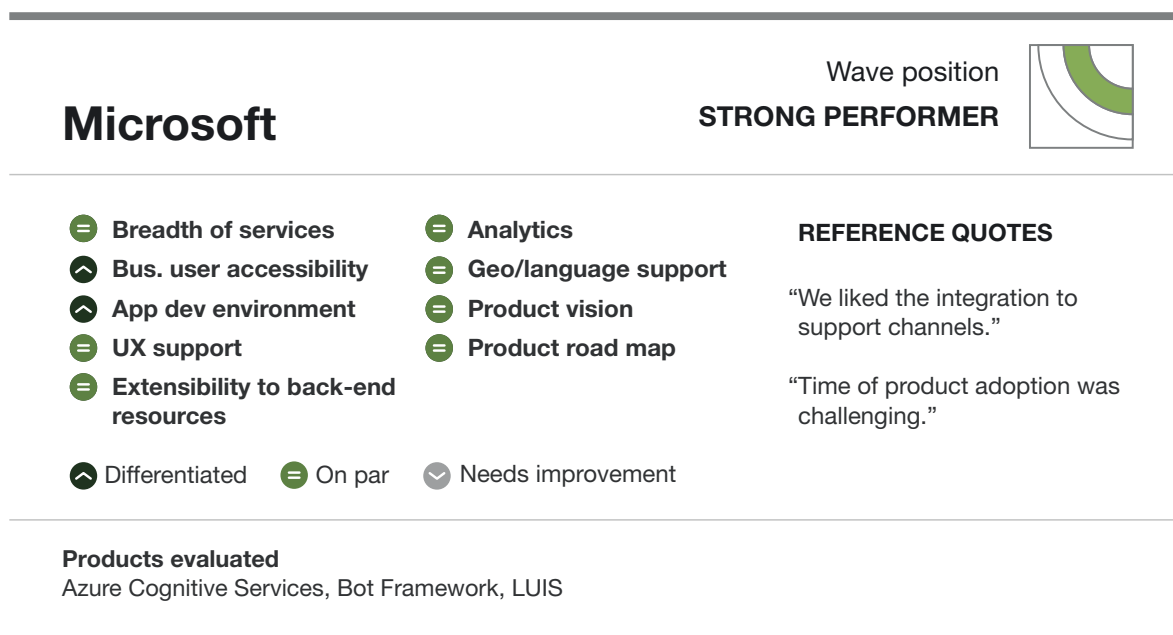The Seven Providers That Matter Most And How They Stack Up

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Microsoft: Forrester's Take

Our evaluation found that (see Figure 7):

› **Developers will love Microsoft's conversational solutions.** While Microsoft splits the entirety of its solution across three product areas — the Microsoft Bot Framework, LUIS for natural language processing, and intent management and Azure Cognitive Services for extended AI support — it brings them together in one strong development environment.

› **Microsoft is strong in the enterprise but less so in consumer and devices.** While Microsoft does play in the consumer device market, it will lag more dominant players like Amazon and Google and hence be less relevant in this market.

› **Microsoft will be a dominant enterprise cloud player.** With its dominant position in knowledge worker technologies such as those in Office 365, insights into worker behavior, and strong cloud development capabilities in Azure, Microsoft presents a very strong vision, especially for enterprise knowledge workers.

Microsoft Customer Reference Summary

Customers appreciated the development platform as well as the ability to easily deploy an application to a variety of different channels.

FIGURE 7 Microsoft QuickCard

Microsoft

Wave position
STRONG PERFORMER

- ⊜ **Breadth of services**
- ⊼ **Bus. user accessibility**
- ⊼ **App dev environment**
- ⊜ **UX support**
- ⊜ **Extensibility to back-end resources**

- ⊜ **Analytics**
- ⊜ **Geo/language support**
- ⊜ **Product vision**
- ⊜ **Product road map**

REFERENCE QUOTES

"We liked the integration to support channels."

"Time of product adoption was challenging."

⊼ Differentiated ⊜ On par ⌄ Needs improvement

Products evaluated
Azure Cognitive Services, Bot Framework, LUIS

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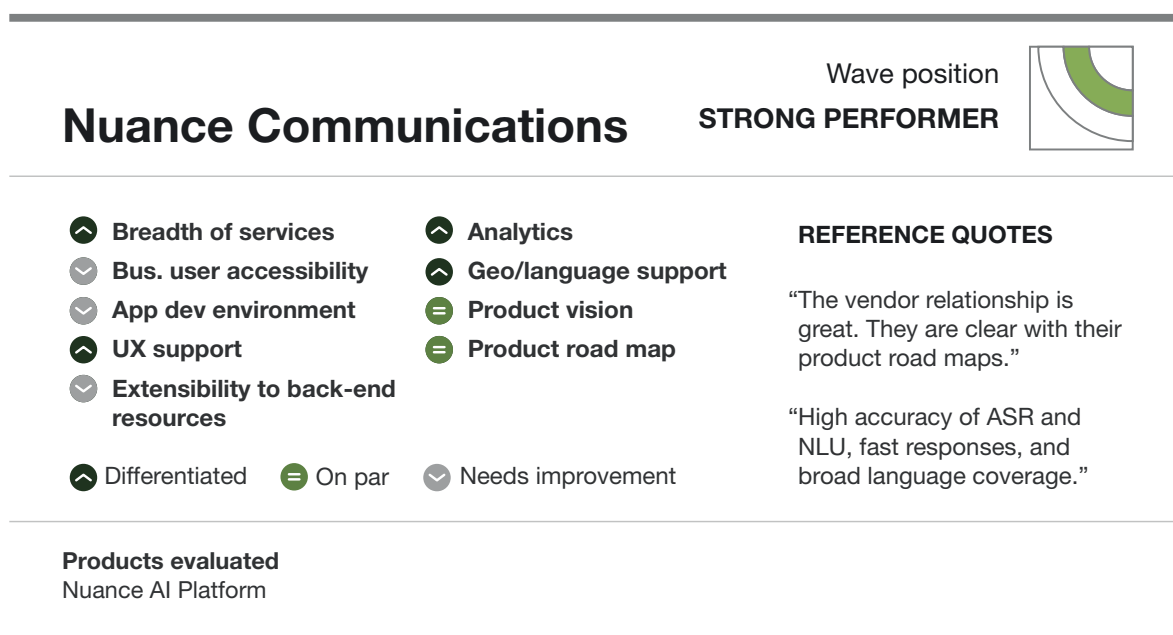The Seven Providers That Matter Most And How They Stack Up

Nuance Communications: Forrester's Take

Our evaluation found that (see Figure 8):

› **Nuance Communications is a killer solution with a development platform.** Nuance has been enabling human-machine conversations for many years in the call center, giving it a running start in enabling tomorrow's conversational computing platforms. It built its virtual agent Nina and has recently enabled developers to use the underlying technology.

› **It's not a killer development environment.** Nuance offers strong solutions along with a development environment to extend those solutions. For developers looking for a toolkit to build solutions completely from scratch, Nuance is likely not the answer, unless they require one of its differentiated capabilities, such as voice biometric user authentication.

› **There are problems that Nuance is uniquely ready to address.** Nuance tackles large, complex, conversational problems that are often mission-critical. It has strong industry expertise, especially in the call center, along with professional services to back that up.

Nuance Communications Customer Reference Summary

Customers appreciated their relationship with Nuance and its ability to deliver complex solutions in a timely and predictable manner. They struggled with integrating Nina with internal data sources.

FIGURE 8 Nuance Communications QuickCard

Nuance Communications

Wave position
STRONG PERFORMER

⌃ **Breadth of services**   ⌃ **Analytics**
⌄ **Bus. user accessibility** ⌃ **Geo/language support**
⌄ **App dev environment**   ⚌ **Product vision**
⌃ **UX support**   ⚌ **Product road map**
⌄ **Extensibility to back-end resources**

⌃ Differentiated   ⚌ On par   ⌄ Needs improvement

REFERENCE QUOTES

"The vendor relationship is great. They are clear with their product road maps."

"High accuracy of ASR and NLU, fast responses, and broad language coverage."

Products evaluated
Nuance AI Platform

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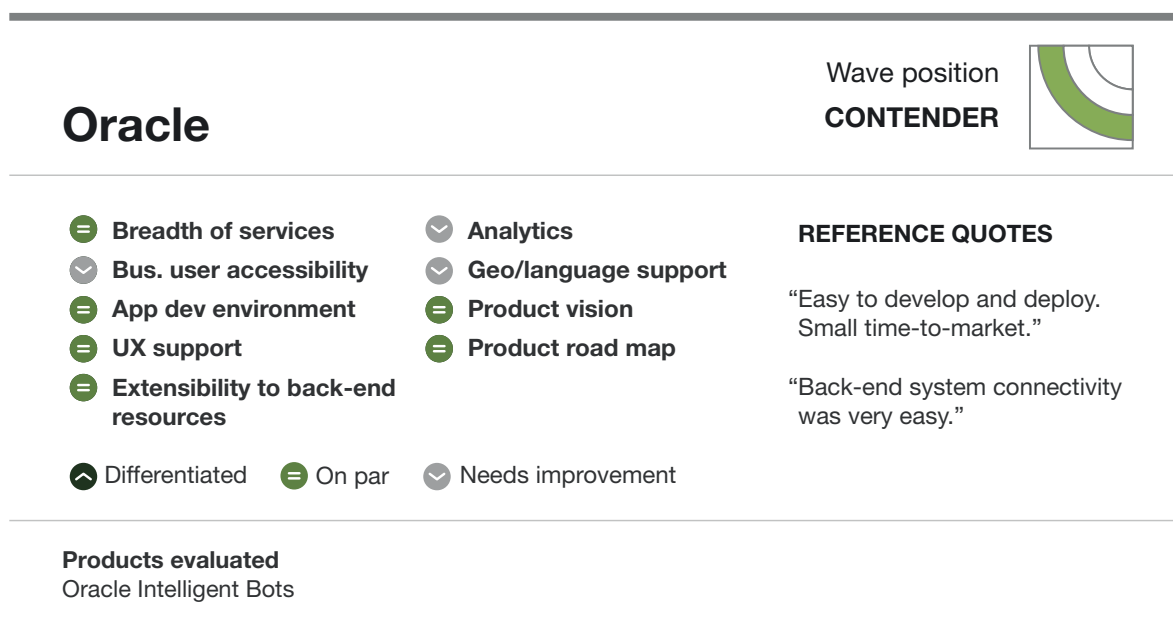The Seven Providers That Matter Most And How They Stack Up

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Oracle: Forrester's Take

Our evaluation found that (see Figure 9):

› **Oracle's conversational platform aligns with Oracle's overall strengths.** Oracle is a new entrant to the market and lacks the maturity that the other vendors have in this space. Given that time frame, Oracle has done two crucial things well: It has gotten the development environment right and has aligned its conversational value proposition with its own strengths.

› **Oracle knows what it is — and what it isn't.** Oracle is strong in voice- and chat-enabling enterprise applications for employee- and consumer-facing solutions (Oracle applications in particular), but it won't be your solution in consumer applications or device integration.

› **Conversational capability will differentiate Oracle Cloud.** As Oracle transitions existing applications and provisions new ones in its cloud, conversational computing represents a differentiator. Oracle positions conversational computing as part of its overall mobile cloud enterprise service offering, making it an integrated part of its cloud offerings.

Oracle Customer Reference Summary

Oracle customers appreciated the straightforward integration with back-end systems, including an ERP integration, that allowed them to conversation-enable those applications.

FIGURE 9 Oracle QuickCard

Oracle

Wave position
CONTENDER

⊜ Breadth of services	⌄ Analytics	
⌄ Bus. user accessibility	⌄ Geo/language support	
⊜ App dev environment	⊜ Product vision	
⊜ UX support	⊜ Product road map	
⊜ Extensibility to back-end resources		

⌃ Differentiated   ⊜ On par   ⌄ Needs improvement

REFERENCE QUOTES

"Easy to develop and deploy. Small time-to-market."

"Back-end system connectivity was very easy."

Products evaluated
Oracle Intelligent Bots

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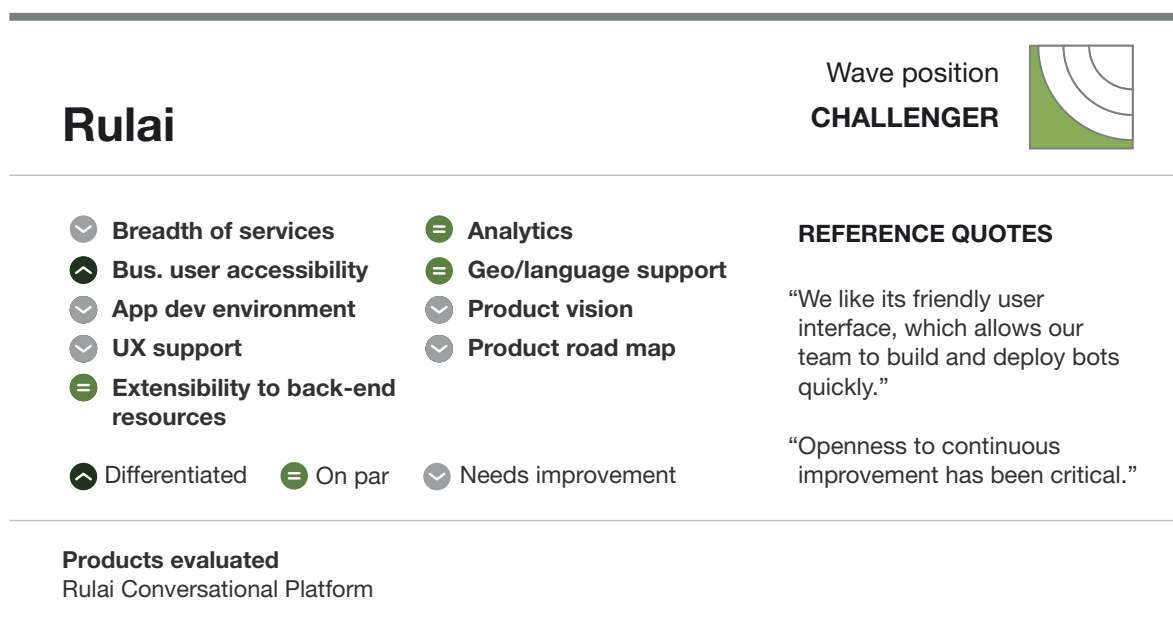The Seven Providers That Matter Most And How They Stack Up

Rulai: Forrester's Take

Our evaluation found that (see Figure 10):

› **Rulai focuses on business user enablement of dialog management and context.** A smaller but viable vendor, Rulai differentiates by targeting a technical business audience. This doesn't limit its power — it still supports complex, nonlinear conversations.

› **Rulai is limited in scope.** Rulai focuses on dialog and is less well suited to customers that prefer a comprehensive set of AI capabilities and a mature, robust development environment. For those that require the latter, look to use Rulai as a complement to a broader platform.

› **Rulai is best suited to complex conversational environments.** While Rulai can handle most conversational patterns, it's unique in its ability to take on complex conversations with an easy-to-implement solution.

Rulai Customer Reference Summary

Customers appreciated Rulai's business user accessibility, which allowed them to maintain applications with minimal IT support, as well as its responsiveness to requests for support and enhancements.

FIGURE 10 Rulai QuickCard

Rulai

Wave position
CHALLENGER

- ⌄ **Breadth of services**
- ⌃ **Bus. user accessibility**
- ⌄ **App dev environment**
- ⌄ **UX support**
- = **Extensibility to back-end resources**
- = **Analytics**
- = **Geo/language support**
- ⌄ **Product vision**
- ⌄ **Product road map**

⌃ Differentiated   = On par   ⌄ Needs improvement

Products evaluated
Rulai Conversational Platform

REFERENCE QUOTES

"We like its friendly user interface, which allows our team to build and deploy bots quickly."

"Openness to continuous improvement has been critical."

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Supplemental Material

The Forrester Evaluation Methodology

We conducted primary research to develop a list of vendors that met our criteria for the evaluation and definition of this emerging market. We evaluated vendors against nine criteria, seven of which we based on product functionality, product vision, product road map, and product revenue. We invited the top emerging vendors in this space to participate in an RFP-style demonstration and surveyed customer references. We then ranked the vendors along each of the criteria. We used a summation of the strategy scores to determine placement on the x-axis, a summation of the current offering scores to determine placement on the y-axis, and the market presence score to determine bubble size. We designated the top-scoring vendors as Leaders.

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Endnotes

[1] Conversational computing platforms allow users to interact with business systems using natural human language. These systems can be accessed by users through chat interfaces like text or Facebook Messenger as well as voice interfaces like Amazon Alexa or Microsoft Cortana. Application developers interact with these platforms through well-defined APIs and vendor-supplied tooling to assist with services such as voice-to-text, natural language processing, natural language generation, translation, and all others required to build these experiences.

[2] AWS is Amazon Web Services.

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