Replacing a core banking system remains a risky and complex task. Bank CIOs can use Gartner’s framework of critical capabilities to determine which of the global retail core banking vendors is the best match for their banks, while customizing the weighting to create their own selection.

Key Findings

- The two key critical success factors in delivering a core banking project remain past delivery expertise within a specific bank tier and within a country.
- Product critical capabilities are component-based architecture, functional granularity, interoperability and internationality.
- No vendor in this analysis offers a product ideally suited for large-bank deployments. Such deployments typically take a best-of-breed approach, which usually requires high interoperability with deep expertise in multiple solution areas.
- Providing core banking products to the small bank tier is becoming more challenging for vendors, as banks in this segment demand three contrasting attributes in the core product. Specifically, core systems need to have end-to-end functionalities, must be smoothly integrated within the cloud ecosystem and have compelling prices.

Recommendations

Banking and investment service CIOs crafting financial services technology modernization and transformation initiatives:

- Create a long list of vendors that can deliver in your specific geography.
- In this long list, include vendors that are long-standing, as well as those that are emerging and can offer new products.
- Build your shortlist of vendors, using Gartner use-case analysis. Customize the weights for the use case that is closest to yours, and build specific criteria that better match your requirements.
Strategic Planning Assumption
By year-end 2023, public or private cloud will each account for 5% of commercial off-the-shelf (COTS) core banking installations.

What You Need to Know
Banks worldwide are embracing digital banking. However, their CIOs are finding the necessary transformation to be a difficult challenge. The more digital a bank wants to become, the deeper it needs to dig into the architecture stack and workflow to change it. This situation is exposing the limitations of banks’ existing — and frequently obsolete — core banking systems (CBSs), and the need to replace them with more-modern software that can be truly open and seamlessly linked to the front end. Hence, open CBSs are becoming essential first steps on the path to open banking.

CBSs are also becoming essential back-office enablers of the new digital model — banks as platforms.

Gartner has developed a framework for CBS renewal to assist bank CIOs with the task of selecting the right CBS vendor and product. This research provides a matrix of seven use-case scenarios and seven selection criteria for CBS products that can be used in synchronization with the companion “Magic Quadrant for Global Retail Core Banking.” CBS choice can also be localized, using regional research published by Gartner (see “Research Index: Core Banking Selection Criteria That Matter”). Adding this process step to the RFI phase of core banking renewal will give bank CIOs an additional layer of due diligence and enhanced transparency in decision making.

Banks frequently demand localization requirements. So, Gartner is introducing critical capabilities by bank tier: small, midsize and large. (The Gartner Glossary shows this bank tier segmentation.) We derived vendor scores in these bank tiers from their relative sales execution across more than 5,000 core banking deals during the past five years. In addition, we addressed regional requirements by weighting vendor performance (across bank tiers) in every region across the globe. The result of this Critical Capabilities assessment is a global score that uniformly rewards vendors with an expansive worldwide footprint.

As market demand changes (mainly as a consequence of different end-user needs), business and local requirements change in tandem, which in turn triggers changes in weightings and relationships among the different variables of our mathematical model. Therefore, clients cannot make year-over-year comparisons of the Critical Capabilities scoring tables — the comparisons are completely invalid. Clients should use only the latest Critical Capabilities report and not mix scores from past reports. The Context section of this report provides full details and deeper guidance about this approach.

(Note: The analysis contained in this research is accurate as of 31 December 2019. However, due to the dynamic nature of the market, clients should use standard inquiries for the most up-to-date information on vendors and products.)
Analysis

Critical Capabilities Use-Case Graphics

Figure 1. Vendors’ Product Scores for Small Bank/Simple Deployment Use Case

Product or Service Scores for Small Bank/Simple Deployment

<table>
<thead>
<tr>
<th>Vendor</th>
<th>Score</th>
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<tbody>
<tr>
<td>Temenos</td>
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<td>Mambu</td>
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<td>TCS</td>
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<tr>
<td>Intellect Design Arena</td>
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</table>

As of 31 July 2020

Source: Gartner (August 2020)

Figure 2. Vendors’ Product Scores for Small Bank/Complex Deployment Use Case

Product or Service Scores for Small Bank/Complex Deployment

<table>
<thead>
<tr>
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As of 31 July 2020

Source: Gartner (August 2020)
Figure 3. Vendors' Product Scores for Midsize Bank/Simple Deployment Use Case

Product or Service Scores for Midsize Bank/Simple Deployment

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As of 31 July 2020

Source: Gartner (August 2020)

Figure 4. Vendors' Product Scores for Midsize Bank/Complex Deployment Use Case

Product or Service Scores for Midsize Bank/Complex Deployment

<table>
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As of 31 July 2020

Source: Gartner (August 2020)
Figure 5. Vendors' Product Scores for Large Bank/Complex Deployment Use Case

Product or Service Scores for Large Bank/Complex Deployment

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<td>Mambu</td>
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</table>

As of 31 July 2020

Source: Gartner (August 2020)

Figure 6. Vendors' Product Scores for Worldwide Multinational Deployment Use Case

Product or Service Scores for Worldwide Multinational Deployment

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<th>Score</th>
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<tr>
<td>Intellect Design Arena</td>
<td>2.44</td>
</tr>
</tbody>
</table>

As of 31 July 2020

Source: Gartner (August 2020)
Vendors' profiles have been built according to this structure:

- **Vendor general introduction:** This section is identical to the vendors' general introductions in “Magic Quadrant for Global Retail Core Banking.”

- **Most suitable use case:** This section highlights the highest scoring use case for each vendor (see Table 3). Next to the use-case name, in brackets, it provides the score for that vendor in that use case. It provides further insight on relative areas of vendor impact and scoring across this use case’s corresponding critical capabilities. Note: This most suitable use case is not a ranking across all vendors within this report; *it is an isolated analysis for a single vendor*. For example, if small bank/simple deployment is the most suitable use case for one vendor, it doesn’t mean that that vendor would have the best score across the list of assessed vendors for that particular use case.

- **Least suitable use case:** This section exposes the use case where each vendor scored the lowest (see Table 3). Next to the use-case name, in brackets, it provides the score for that vendor in that use case. It provides further insight on relative areas of vendor impact and scoring across this use case’s corresponding critical capabilities. Note: This least suitable use case is not a ranking across all vendors within this report; *it is an isolated analysis for a single vendor*. For example, if challenger bank deployment is the least suitable use case for one vendor, it doesn’t mean that that vendor would have the worst score across the list of assessed vendors for that particular use case.
EdgeVerve Systems

EdgeVerve Systems is an Infosys product company headquartered in Bangalore, India. It launched its Finacle Core Banking Solution in 2000 — the surveyed version as of the cutoff date, v.11.8, was released in April 2019. Gartner estimates that Finacle Core Banking Solution has more than 480 installations worldwide, and about 25 in progress, with India being the country with the most installations. EdgeVerve’s customer base is mainly universal banks in the small to midsize segment, although the company has customers in every segment, including a few global banks. The emerging Asia/Pacific (APAC) region has the highest share of existing implementations.

EdgeVerve’s product is coded with C/C++ and Java and is offered on UNIX/Oracle, as well as Linux/Db2 (z/OS)/EnterpriseDB. In addition to on-premises implementation, Finacle has been deployed as a hosted solution via ASP (notably, for a high number of rural banks in India) and as private and public cloud SaaS (in partnership with Amazon Web Services [AWS]). EdgeVerve’s go-to-market strategy is hub-based, with a direct presence in 46 countries, but the company sells and services in 96 countries worldwide and leverages its local partner network.

The Finacle App Center is the app marketplace, with 60 third-party APIs diversified across many categories. This marketplace had a 25% increase in the number of APIs over the previous year, although it does not feature any end-user apps.

**Most suitable use case:**

- **Small bank/complex deployment (3.81):** Functional granularity for EdgeVerve’s Finacle is very strong, with a solid product ecosystem strategy, a diversified microvertical offering and high componentization levels that include microservices. These features, together with a high level of interoperability, help bank clients deploying Finacle to deliver complex installations in sophisticated environments.

**Least suitable use case:**

- **Challenger bank deployment (3.40):** Finacle’s expertise within the smallest tier (that is, Tier 5) is limited, compared with other bank tiers in which Finacle operates. This makes the challenger bank deployment use case the least suitable among the seven use cases.

Intellect Design Arena

Intellect Design Arena is headquartered in Chennai, India, and its CBS product, Intellect Digital Core, was launched in 2005 — the surveyed version as of the cutoff date, v.19.1, was released in July 2018. Gartner estimates that Intellect Digital Core has more than 100 installations worldwide, of which about a dozen are in progress. India is the country with the most installations.

Intellect Design Arena’s customer base is mainly universal banks in the small to midsize bank tiers, including a few global clients for which it provides selected components of its CBS. These installations are prevalent across the emerging APAC region, followed by Western Europe and the Middle East and North Africa (MENA).
Intellect Digital Core is coded in Java and runs over UNIX (HP, IBM and Sun), Linux and Windows on Oracle Database. Along with on-premises implementations, the product has been deployed via SaaS and in hosted environments. Intellect Design Arena partnered with AWS for public cloud services.

Intellect Design Arena’s go-to-market strategy is hub-based. The company has a direct presence in 24 countries, but sells in more than 80 countries worldwide.

As of the cutoff date, Intellect Design Arena featured an embryonic app marketplace and keeps investing in that.

Most suitable use case:

- **Worldwide multinational deployment (2.44):** Intellect Design Arena’s main capabilities in delivering Intellect Digital Core are in its expertise with the many small to midsize banks operating around the globe as foreign branches or subsidiaries of large global banks. This capability, combined with good levels of internationality (for example, with multinational financial organizations), positions this use case as the most suitable one for Intellect Digital Core.

Least suitable use case:

- **Challenger bank deployment (2.19):** Intellect Design Arena’s expertise with banks from the small tier is minimal, particularly with fintechs or neobanks, which are not the usual targets for this vendor’s product. Moreover, the lack of an app marketplace and the low focus on cloud deliveries make this product least suitable for this bank segment.

**Mambu**

Mambu is a German company that was launched in 2011 and grew rapidly to today’s solid customer base of more than 200 installations worldwide. Mambu’s CBS product is Mambu Banking Engine. The surveyed version, v.9.3, as of the cutoff date, was released in September 2019. However, Mambu’s cloud product gets updated on a weekly basis, and therefore, a versioning paradigm is not strictly applicable. In fact, Mambu is delivered exclusively via SaaS, often using the AWS public cloud, although it recently signed partnerships with both Google Cloud and Microsoft Azure.

Historically, Mambu has sold its product to microfinance institutions, but it is now largely focused on fintechs, challenger banks and larger banks launching spinoffs. Its installation base is mainly spread across Western Europe, Latin America and sub-Saharan Africa. The country with the most installations is the U.K.

Mambu Banking Engine is entirely written in Java, but other languages are used for other services. It runs primarily on AWS, where Mambu uses MySQL database. As this core system usually runs on the public cloud, hardware platform compatibility is of minimal importance. Mambu’s go-to-market strategy is based on a network of offices in nine countries where Mambu has a direct presence that enables it to support more than 200 installations across 66 countries.
Mambu Marketplace has 26 third-party vendors that support the development of complementary applications.

**Most suitable use case:**

- **Small bank/simple deployment (3.50):** Mambu has built extensive expertise in the small-bank segment with more than 150 projects around the world. Also, its product has high functional granularity — especially for program implementation, project management and ecosystem strategy. This helps in successfully delivering out-of-the-box projects with fast delivery times, as well as low budgets, which really matters for this bank segment.

**Least suitable use case:**

- **Large bank/complex deployment (2.07):** Large banks’ interest in this product persists, but Mambu doesn’t have any expertise with this bank segment beyond small projects. Its component-based architecture — consistent with Mambu’s strategy — is not end-to-end, and the limited number of components and business services can limit the options of large domestic retail banks that usually go for a best-of-breed approach.

**Oracle**

Oracle acquired 75% of i-flex from Citi in 2005, and renamed it Oracle Financial Services Software (OFSS). OFSS is headquartered in Mumbai, India. The company’s main CBS product is Oracle FLEXCUBE, and over the past two decades, it has evolved to become one of the most adopted COTS CBS products in the world. FLEXCUBE was released in May 2019, and the surveyed version as of the cutoff date is v.14.3. Gartner estimates that it has more than 800 installations worldwide. Approximately 50 of those are in progress, with India the country with the most installations.

FLEXCUBE’s customer base is mainly universal banks in the midsize segment, but there are customers in every segment, including a few global banks. The majority of FLEXCUBE installations are in sub-Saharan Africa and across emerging Asia/Pacific.

FLEXCUBE is written in Java and runs over UNIX (IBM AIX, Oracle Solaris and HP-UX) and Linux OS, and only on an Oracle Database. Apart from on-premises implementations, FLEXCUBE has been deployed as a hosted solution via ASP. Private and public cloud projects are usually delivered on Oracle Cloud Infrastructure (OCI). Oracle’s go-to-market strategy for FLEXCUBE is extremely hub-based. Oracle leverages its huge worldwide network of offices, although only 29 of them are effectively selling and supporting FLEXCUBE across more than 150 countries.

The Oracle Cloud Marketplace, although having only 50 third-party APIs directly related to banking, has more than 1,500 APIs that might be leveraged by a bank in sync with Oracle FLEXCUBE.

**Most suitable use case:**

- **Challenger bank deployment (4.06):** Oracle FLEXCUBE offers a mix of strong expertise within the small bank tier and a very strong component-based architecture with a high number of
business services, exposed microservices and open APIs. These make Oracle FLEXCUBE a perfect product for challenger banks as well as fintechs.

**Least suitable use case:**

- **Large bank/complex deployment (3.54):** Oracle FLEXCUBE customer base includes some large banks, but only for countries or operations that involve a limited number of accounts and business functionalities.

**TCS**

Tata Consultancy Services (TCS) is headquartered in Mumbai, India. The company launched its TCS BaNCS CBS in 2007 — the surveyed version, current as of the cutoff date, is v.17.1, which was released in October 2018. The current TCS BaNCS is the result of the functional and technical evolution of the original product and expansion with homegrown components. Gartner estimates that TCS BaNCS has almost 400 installations worldwide, of which 30 are in progress, with India and emerging APAC as the country and the region having the most installations.

Its customer base is mainly retail and cooperative banks (TCS BaNCS has more than 100 such small clients in India via a joint venture with State Bank of India called C-Edge Technologies) and in the small to midsize bank segment. It also has several large clients worldwide.

TCS BaNCS contains components written in either Java or COBOL. Approximately 25% of installations use Java components exclusively, while the rest use one or more COBOL components. While a number of existing customers use COBOL components, TCS BaNCS solution is increasingly being offered and implemented with full Java components. This evaluation refers only to the Java components of the product, and not to the COBOL components. The product runs over UNIX (IBM, HP and Sun), z/OS, Linux (z/OS) and Windows on Oracle, Db2 and SQL Server databases.

TCS BaNCS is mainly installed on-premises, although many clients use a hosted solution via ASP. TCS is a formal partner of public cloud vendors, and TCS did report that it has a few ongoing implementations on public cloud, in addition to its deployments on private cloud. However, Gartner is aware of only one installation on Microsoft Azure. TCS BaNCS’s product support is hub-based, with a direct presence in 10 countries, but TCS sells its product in 57 countries worldwide.

TCS launched its API marketplace in 2018 — TCS BaNCS Marketplace — and it has 35 APIs with a 250% increase over the previous year.

**Most suitable use case:**

- **Midsize bank/complex deployment (3.55):** TCS BaNCS has high levels in both component-based architecture and interoperability that strongly contribute to successful deployments in this use case’s scenario. In fact, TCS BaNCS’s strategy shows an increasing level of componentization, high focus on cloud-native components and open APIs, while both banking industry strategy (especially in terms of industry participation) and product capabilities are distinctive features for this product.
**Least suitable use case:**

- **Challenger bank deployment (3.18):** TCS BaNCS has limited expertise within the smallest bank tier (that is, Tier 5) at the global level and, particularly, fintechs. This largely drove the low score for this use case for TCS BaNCS.

**Temenos**

Headquartered in Geneva, Switzerland, Temenos launched its Temenos Transact product in 1993 — formerly Temenos T24 Transact. The surveyed version, current as of the cutoff date, is v.19, released in April 2019. Gartner estimates that Temenos Transact has more than 800 installations worldwide, of which more than 100 are in progress, with the U.K. being the country with the most installations.

Its customer base is distributed across banks of all sizes, with the largest number being universal banks in the small to midsize segment. In the past few years, though, the company has signed some large clients. Temenos Transact’s installation base is mostly located across sub-Saharan Africa, emerging APAC and Western Europe.

Temenos’ product is coded in a domain-specific language and is used to generate Java, JavaScript and XML. It runs on UNIX (HP, IBM and Sun), Linux and Windows on Oracle, Db2, Microsoft SQL (Server and Azure) and NuoDB databases. Temenos Transact’s installations are mainly deployed on-premises. However, since 2011, Temenos has been deploying on private and public SaaS (in partnership with Microsoft Azure). Temenos Transact now has a growing number of installations on the public cloud with all three main infrastructure as a service (IaaS) providers.

Temenos’ go-to-market strategy is hub-based, with a direct sales presence in 40 countries and sales in 148 countries with more than 800 installations. Where Temenos doesn’t operate, partners provide both installation and postsales support.

Temenos’ app marketplace called Temenos MarketPlace has 122 third-party APIs.

**Most suitable use case:**

- **Small bank/simple deployment (4.28):** Temenos has extensive expertise with small banks and extensive number of deliveries across different bank segments. In terms of functional granularity — a significant factor for this use case — Temenos Transact has a reasonable level of componentization. It has about 30 components, an increased amount of component granularity and an increasing focus on microservices within its product roadmap, compared with the past.

**Least suitable use case:**

- **Large bank/complex deployment (3.41):** Despite delivering some significantly large projects in recent years, Temenos still has issues in delivering a high number of out-of-the-box business services and APIs in the product from a component-based architecture perspective that require extensive system integration work. In addition, Temenos Transact offers limited best-of-breed capabilities due to average interoperability elements.
Context

This Critical Capabilities research outlines major use cases for CBSs, as well as the differentiating capabilities that can bring a sharper focus to the early phases of core banking product selection. It complements the “Magic Quadrant for Global Retail Core Banking,” which considers a broad set of criteria balanced across a vendor’s completeness of vision and its ability to execute in the global core banking market.

This research focuses more narrowly on vendor experience and expertise and a product’s capacity to support specific use cases across geographies.

In this research, Gartner acknowledges these localization requirements by introducing critical capabilities by bank tier (small, midsize and large). Vendor scores in these bank tiers are derived from their relative sales execution across more than 5,300 core banking deals during the past few years. This is the reference market for core banking software in our current research. The regional requirements in this research are addressed by weighting vendor performance (across bank tiers) in every region worldwide, according to Gartner taxonomy. The result of this particular Critical Capabilities assessment is a score that uniformly rewards vendors that have an expansive global footprint.

However, Gartner routinely receives requests from bank clients about the requirements for vendor proximity and reference banks to reduce program risk. These requests are often characterized by vendors’ country or regional coverage, and specific bank size experience. These banks often favor CBS vendors that know and can deliver requirements for local regulations, accounting rules and standards, and languages, as well as those that accommodate specific local business and cultural behaviors.

Gartner provides insight on these vendor attributes in the vendor profiles herein. These issues are also referenced in greater specificity in “Research Index: Core Banking Selection Criteria That Matter” and other research listed in the section on recommended reading. These important local requirements (requested by the end users) change over the years, due to a number of factors, which mainly involve local regulators, as well as local business needs. The weightings and relationships between the different variables of our mathematical model also change, making any year-over-year comparisons of Critical Capabilities tables and categories completely invalid.

Therefore, Gartner discourages all such year-over-year comparisons. Gartner strongly recommends that bank CIOs use this research with “Magic Quadrant for Global Retail Core Banking.” In addition, bank CIOs should read “A Banker’s Guide to Core Banking Solutions for Western Europe” and those recently published for other regions, which are fully described and summarized in “Research Index: Core Banking Selection Criteria That Matter.”

CIOs need to recognize that banks’ core banking renewal programs differ materially from one another. Their objectives can vary widely, and banks’ approaches to them should as well. CIOs should consider a few key points:

- Each bank is unique in its approach to the market, in areas including product portfolio, value proposition and target market. CIOs should keep this point in mind even when purchasing “bank in a box” offerings.
IT maturity and experience with complex programs directly influence program risk.

Governance practices and knowledgeable participants are crucial elements in a well-run program.

Although this research focuses on on-premises installations, the use of public cloud for core banking has accelerated its movement toward mainstream adoption, as shown in the “Hype Cycle for Digital Banking Transformation, 2019.” Therefore, new vendors with innovative offerings in the cloud are emerging as game changers.

Given these realities, purchasing a CBS product that works well for one bank could be, for another bank, an expensive and dangerous mistake that leads to project failure. For this reason, each project requires well-thought-out planning and evaluation, and should be complemented by attentive due diligence that begins with a situation analysis. Gartner has developed a helpful framework.

CIOs need to conduct more-detailed and intensive efforts to align their requirements with the vendor and product that offer the best fit. However, CIOs can narrow down vendors and products by viewing the product market through bank profiles that possess a combination of bank segmentation and complexity.

Segmentation by bank size provides a close fit for CBS buying patterns. However, banks of comparable size do not necessarily address their markets in the same way. For example, a bank with $1 billion in assets competing with $1 trillion top-tier banks has a business model and IT agility requirements different from those of comparably sized banks in a noncompetitive market. (For further details, see Figure 3 in “Research Index: Core Banking Selection Criteria That Matter.”)

The general complexity of a bank is also an important element affecting core banking selection. This complexity can be estimated based on a combination of factors, including business strategy (passive or aggressive), IT strategy (ratio of run-the-bank and transform-the-bank initiatives) and the existing IT landscape (complex or simple).

The intersection of bank size and complexity provides a use-case approach to narrowing down “longlist” considerations. Through the critical capabilities identified in this research, CIOs can align relevant factors to make more-informed CBS choices.

**Product/Service Class Definition**

This research examines seven critical capabilities that differentiate core banking products in various use cases:

- Component-Based Architecture
- Internationality
- Interoperability
- Functional Granularity
These critical capabilities represent the most important and differentiated features and functions for CBSs. The capabilities in each of these areas have been weighted for their respective use cases.

**Critical Capabilities Definition**

**Component-Based Architecture**
The core banking market is adapting to changes in the banking industry, especially in digital banking. The leading trend in establishing these critical capabilities is componentization: the decomposition of monolithic CBSs into smaller components with discrete functionality.

The selection criteria in this area relate to the CBS's ability to align with the bank's product roadmap and strategy by leveraging component-based architecture. This includes the number of components into which the CBS can be broken down. And this includes its ability to foster innovation (for example, by the introduction of microservices) and to adapt to changes (for example, from new regulations imposed by local regulators or channels requested by consumers).

**Internationality**
Internationality is the ability to support operations in multiple geographic regions. This includes the ability to support multiple currencies and languages, provide configuration tools, and support localized environments for each region's unique regulatory environment and common business practices.

Beyond these “macro” criteria, which are typically determined by the number of clients that the vendor has in a given country or region, Gartner considers certain requirements critical to being a truly global vendor. Internationality also evaluates the capability to foster local and global partnerships, formal partner certification programs, a solid geographic strategy, and how each of these factors affects product design and planning.

**Interoperability**
The ability to easily interact with a variety of solutions that are internal and external to the bank is an increasingly important attribute for CBSs. Alignment with industry standards is a key success factor in enabling this critical capability.

Standardization is often requested by banks. In practice, there are few standards in this industry (for example, the well-known SWIFT for communication and some other protocols). Nonetheless, the banking industry is reacting to this gap, and Gartner has identified Banking Industry Architecture Network (BIAN) as the most interesting initiative to steer the banking sector toward achieving the goal of standardization. Hence, a vendor's active participation in BIAN is a requirement for making...
its CBS product more interoperable and viable in the long term, and less sensitive to future changes.

Technical compatibility — for example, with DBMSs, OSs and hardware platforms — is an important factor in achieving the broadest possible interoperability. Another factor that can affect interoperability is partnerships with software vendors in areas that are complementary to core banking. These include vendors of regulatory compliance software and providers in niche areas that orbit the core — for example, collateral management, relationship pricing, and artificial intelligence (AI) and analytics.

Functional Granularity

The ability to provide distinct functionality is important to all segments of banking. However, requirements to deliver this critical capability are driven by available sourcing models and the ability to offer functionality on a broad or discrete basis.

Product strategies that include microvertical offerings within specific niche areas of retail banking — for example, microfinance, Islamic banking, or small and midsize business (SMB) banking — demonstrate a CBS product’s ability for functional granularity. The product’s adaptability is another critical factor in terms of the vendor’s ability to be receptive to market changes, implement the changes in its product roadmap, and deliver them in timely upgrades and version releases.

Small-Bank Segment

The CBS vendor’s ability to apply best practices to the small-bank segment, based on historical deployments, is important to banks that have constrained IT budgets and are averse to project failures due to high complexity and cost overruns.

Many vendors lay claim to large numbers of installations in this particular segment. However, to ensure currency, Gartner restricts vendors’ eligibility for this critical capability to those that have conducted deals within the past five years. Each vendor’s installed base has also been assessed according to the regional classification for this banking tier, such that the score is globally balanced and awards those vendors with a truly global footprint (that is, a globally distributed customer base). Still, some vendors may have great expertise in this tier, but in only a limited number of regions.

Midsize-Bank Segment

The ability to extend best practices within the midsize-bank segment, based on historical deployments, is important to midsize banks whose characteristics of integration complexity and range of products require special attention.

Many vendors claim large numbers of installations in this particular segment. However, to ensure currency, Gartner restricts vendors’ eligibility for this critical capability to those that have conducted deals within the past five years. Each vendor’s installed base has also been assessed according to the regional classification for this banking tier, such that the score is globally balanced and awards
those vendors with a truly global footprint (that is, a globally distributed customer base). Still, some vendors may have great expertise in this tier, but in only a limited number of regions.

Large-Bank Segment

The ability to extend best practices in the large-bank segment, based on historical deployments, is important to large banks. Their IT landscapes are composed of thousands of discrete applications, with a labyrinth of complex integration networks.

A few vendors can actually claim a large number of installations in this particular large-tier segment. However, to ensure currency, Gartner restricts vendors’ eligibility for this critical capability to those that have conducted deals during the past five years. Each vendor’s installed base has also been assessed according to the regional classification for this banking tier. The score is globally balanced and awards those vendors with a truly global footprint (that is, a globally distributed customer base). Still, some vendors may have great expertise in this tier, but in only a limited number of regions.

Use Cases

Small Bank/Simple Deployment

This use case focuses on the requirements of small banks that need general functionality to address commonly supported banking products.

Small banks usually direct a high proportion of their IT spending to supporting CBSs. Due to constrained IT budgets, they typically adopt the bank-in-a-box model, which is characterized by a single-vendor software environment and comparatively limited software customization. This model is becoming popular among emerging banks that we have defined as “challenger banks.”

According to Gartner’s definition, a “small bank” is one identified as Tier 5 (T5) in Figure 3 of “Research Index: Core Banking Selection Criteria That Matter” or the “bank tier” definitions in the Gartner Glossary. For our purposes, banks are segmented by tier — that is, their size in terms of total banking assets, as they appear on the balance sheets of their annual reports. These tiers vary by region, given the weight that a bank has in the local economy and context. These banks typically operate in one country or a small number of countries, and they may have some limited cross-border operations.

Small Bank/Complex Deployment

This use case focuses on the requirements of small banks in competitive markets that demand diversified banking products.

These banks usually direct a high proportion of their IT budgets to supporting CBSs, but their market requirements dictate the use of CBSs with higher-order architecture that enables business agility.

According to Gartner’s definition, a “small bank” is one identified as Tier 5 (T5) in Figure 3 of “Research Index: Core Banking Selection Criteria That Matter” or the “bank tier” definitions in the
Gartner Glossary. For our purposes, banks are segmented by tier — that is, their size in terms of total banking assets, as they appear on the balance sheets of their annual reports. These tiers vary by region, given the weight that a bank has in the local economy and context. These banks typically operate in one country or a small number of countries, and they may have some limited cross-border operations.

**Midsize Bank/Simple Deployment**
This use case focuses on midsize banks — typically operating in single countries — whose addressable markets dictate a broad array of general banking products.

These banks tend to favor low levels of core banking customization. They pursue single-vendor solution sets to preserve lower total cost of ownership (TCO).

According to Gartner’s definition, a “midsize bank” is one identified as Tier 3 (T3) or Tier 4 (T4) in Figure 3 of “Research Index: Core Banking Selection Criteria That Matter” or the “bank tier” definitions in the Gartner Glossary. For our purposes, banks are segmented by tier — that is, their size in terms of total banking assets, as they appear on the balance sheets of their annual reports. These tiers vary by region, given the weight that a bank has in the local economy and context.

**Midsize Bank/Complex Deployment**
This use case focuses on complex, midsize banks — typically operating in single countries — whose addressable markets dictate a broad array of banking products.

A complex deployment typically comprises hundreds of software applications, and often includes custom-developed or redundant CBSs with high levels of customization.

According to Gartner’s definition, a “midsize bank” is one identified as Tier 3 (T3) or Tier 4 (T4) in Figure 3 of “Research Index: Core Banking Selection Criteria That Matter” or the “bank tier” definitions in the Gartner Glossary. For our purposes, banks are segmented by tier — that is, their size in terms of total banking assets, as they appear on the balance sheets of their annual reports. These tiers vary by region, given the weight that a bank has in the local economy and context.

**Large Bank/Complex Deployment**
This use case focuses on large banks whose expansive functionality requirements are supported by islands of line of business (LOB)-supported products.

These banks have highly complex technology environments with thousands of applications. They are typically supported by redundant and overlapping CBSs, with a myriad of application-to-application connections.

According to Gartner’s definition, a “large bank” is one identified as Tier 1 (T1) or Tier 2 (T2) in Figure 3 of “Research Index: Core Banking Selection Criteria That Matter” or the “bank tier” definitions in the Gartner Glossary. For our purposes, banks are segmented by tier — that is, their size in terms of
total banking assets, as they appear on the balance sheets of their annual reports. These tiers vary by region, given the weight that a bank has in the local economy and context.

Worldwide Multinational Deployment

This use case focuses on a linked array of small, midsize or large banks across multiple countries with independent market requirements.

These are essentially holding companies composed of banks of varying sizes with unique environments that range from low to high maturity. In most core banking renewal scenarios for this use case, the banks are considering simplification strategies to reduce complexity, technology footprint and inefficiency, and to improve their cost-to-income ratios.

According to Gartner’s definition, a “worldwide multinational bank” is one identified as T1 in Figure 3 of “Research Index: Core Banking Selection Criteria That Matter” or the “bank tier” definitions in the Gartner Glossary. For our purposes, banks are segmented by tier — that is, their size in terms of total banking assets, as they appear on the balance sheets of their annual reports. These tiers vary by region, given the weight that a bank has in the local economy and context. These worldwide multinational banks typically operate in more than three regions and a high number of countries.

Challenger Bank Deployment

This use case focuses on financial technology banks (that is, fintechs). Their unrelenting aspirations for the customer experience are paramount to their business model.

These fintechs or small challenger banks mandate open-banking solutions to maintain high levels of interoperability for unique partner and customer interactions, without correspondingly high integration costs. Unlike other small-bank go-to-market models, this use case relies heavily on differentiation at a rapid pace — often with an ecosystem of partners. Above all, fintechs require fast delivery at inexpensive capital costs. These requirements privilege the use of cloud capabilities and very solid past expertise within the specific small-tier segment.

These new banks are increasingly becoming the “new normal” for the consumerization of banking services, and are mostly used by millennials. These customers don’t like going to the branch. They’re mobile and like mobile payments. They’re also concerned about security, but better understand technology and can manage it. They don’t want to pay for services that others can provide free of charge and, ultimately, are ready to switch banks whenever they’re discontented. Challenger banks mainly target those prospects.

According to Gartner’s definition, a “challenger bank” is one usually identified as T4 or T5 in Figure 3 “Research Index: Core Banking Selection Criteria That Matter” or the “bank tier” definitions in the Gartner Glossary. For our purposes, banks are segmented by tier — that is, their size in terms of total banking assets, as they appear on the balance sheets of their annual reports. These tiers vary by region, given the weight that a bank has in the local economy and context. These banks appear mainly as small entities and are freshly created, either independently as “greenfield” operations (for example, fintechs) or as spinoffs of larger parent companies. In both cases, they are relatively small.
Vendors Added and Dropped

We review and adjust our inclusion criteria as markets change. As a result of these adjustments, the mix of vendors in this research may change over time. A vendor’s appearance in this research one year and not the next does not necessarily indicate that Gartner has changed its opinion of that vendor. It may be a reflection of a change in the market and, therefore, changed evaluation criteria, or a change of focus by that vendor.

Added

No new vendor was added to the past year’s list of vendors.

Dropped

Finastra was dropped from the 2020 Critical Capabilities, because its products did not meet the current inclusion criteria (see the Inclusion and Exclusion Criteria section for more detail):

- Market penetration criteria: Finastra (Fusion Essence) didn’t meet the first criterion for market penetration as it didn’t have at least two installations across 10 different countries at the time of the survey.
- Active market presence criteria: Finastra (Fusion Essence) didn’t meet the inclusion criteria for the minimum net new client wins and the minimum net new production clients going live between 1 January 2018 and 30 September 2019. All criteria applied only to retail core banking installations, evaluated with a tier analysis and excluding simple updates (see the next section for further detail).

This vendor was formerly known as Misys.

Inclusion Criteria

This year, the assessment inclusion criteria didn’t change, and as in the past year, we have divided the criteria into two categories:

1. Market penetration in terms of a minimum number of installations by country and by region
2. Active market presence in terms of a minimum number of new clients and go-live installations

Moreover, to be included in our report, a vendor had to support multilingual and multicurrency capabilities, plus global retail core banking functionality, for at least five of these six services:

- Current accounts
- Savings
- Fixed-term deposits
- Consumer loans
- Commercial loans
- Mortgage loans

Essentially, we adopted the same criteria that was applied for the 2020 Magic Quadrant.

Finally, for this year's assessment, we have improved these requirements by better refining them as follows.

Market Penetration

Market Penetration by Country
The installation base of each product has been segmented by country.

The minimum number of countries with active installations has been set to 10, as in the past year's assessment. And one country has been considered as a valid count only if a minimum number of two installations has been recorded in that country.

So, for example, a product with 10 installations, respectively, in 10 different countries would count as zero for this requirement, while installations evenly distributed over five countries (for example, two installations each) would count as five.

This change has been necessary to account for any opportunistic approach to the market, compared with more-consistent go-to-market strategies that consider entering a country market for further penetration.

Market Penetration by Region
The installation base of each product has been also segmented by region, according to Gartner's taxonomy of 10 regions in the world. The regions are Western Europe, Eastern Europe, Eurasia, MENA, sub-Saharan Africa, North America, Latin America, emerging APAC, mature APAC and Greater China. Note: “Greater China,” as used in this report, refers to countries or regions where the language predominantly spoken is Chinese.

The minimum number of regions with active installations has been set to four, as in the past year's assessment. And one region is considered a valid count only if a minimum number of five installations has been recorded for that region.

So, for example, four installations in Western Europe would not suffice to demonstrate a solid footprint in this region, and therefore, this region would not be counted.

This change is intended to exactly reflect the same philosophy as the previous requirement: global footprint. In fact, while a large number of vendors can claim a sporadic presence in multiple regions, fewer can effectively guarantee a continued presence that a bank would require during implementation and in postimplementation support.
Active Market Presence

New Client Wins

A minimum number of net new client wins in the past seven rolling quarters — that is, from 1 January 2018 through 30 September 2019 — has been set to five as in the past year. This threshold reflects the market activity that Gartner could ascertain, according to data that Gartner has collected from vendors, as well as from its own client interactions. On the other hand, a much stricter screening of this client count has been enforced by focusing exclusively on:

- Retail banking installations only — excluding wealth and corporate banking deployments.
- Replacements and greenfield projects — excluding any update or major upgrade deployment. Only deployments with new clients have been considered as a valid count.

Moreover, Gartner has introduced a new subcriterion to evaluate such new client names in relation to the bank tiers (see the Gartner Glossary for the definition of “bank tiers” or “Research Index: Core Banking Selection Criteria That Matter”).

This approach has been necessary to take into consideration that the complexity of core banking deployments varies greatly between banks of different sizes. In general, large client deliveries are much more difficult than small microfinance institutions’ projects. Therefore, based on data about the average duration of core banking projects, we have established a “conversion table.” This table considers eight projects at Tier 5 banks to be comparable in duration to one average large project at a Tier 1 bank. Projects in other bank tiers have a proportional duration. In this fashion, for example, Gartner has considered as two valid counts either one project with a Tier 1 bank, eight smaller projects with Tier 5 banks or two projects with two Tier 3 banks (see Note 2).

Clients Going Live

The minimum number of clients going live in the past seven rolling quarters — that is, from 1 January 2018 through 30 September 2019 — has been reduced from 10 to eight. The softening of this requirement has been necessary to reflect market changes (according to data that Gartner collected). To enforce a much stricter screening of such client count, we enforced the same criteria on counting as the previous section for “new client wins.”
### Table 1. Weighting for Critical Capabilities in Use Cases

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Component-Based Architecture</td>
<td>0%</td>
<td>10%</td>
<td>13%</td>
<td>27%</td>
<td>35%</td>
<td>10%</td>
<td>15%</td>
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<tr>
<td>Internality</td>
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<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>30%</td>
<td>0%</td>
</tr>
<tr>
<td>Interoperability</td>
<td>0%</td>
<td>27%</td>
<td>30%</td>
<td>34%</td>
<td>28%</td>
<td>20%</td>
<td>10%</td>
</tr>
<tr>
<td>Functional Granularity</td>
<td>60%</td>
<td>43%</td>
<td>33%</td>
<td>21%</td>
<td>12%</td>
<td>20%</td>
<td>10%</td>
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<tr>
<td>Small-Bank Segment</td>
<td>40%</td>
<td>8%</td>
<td>8%</td>
<td>0%</td>
<td>0%</td>
<td>10%</td>
<td>65%</td>
</tr>
<tr>
<td>Midsize-Bank Segment</td>
<td>0%</td>
<td>12%</td>
<td>16%</td>
<td>13%</td>
<td>0%</td>
<td>10%</td>
<td>0%</td>
</tr>
<tr>
<td>Large-Bank Segment</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>5%</td>
<td>25%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

As of 31 July 2020

Source: Gartner (August 2020)

This methodology requires analysts to identify the critical capabilities for a class of products/services. Each capability is then weighed in terms of its relative importance for specific product/service use cases.

**Critical Capabilities Rating**

Each of the products/services has been evaluated on the critical capabilities on a scale of 1 to 5; a score of 1 = Poor (most or all defined requirements are not achieved), while 5 = Outstanding (significantly exceeds requirements).
### Table 2. Product/Service Rating on Critical Capabilities

<table>
<thead>
<tr>
<th>Critical Capabilities</th>
<th>EdgeVerve Systems</th>
<th>Intellect Design Arena</th>
<th>Mambu</th>
<th>Oracle</th>
<th>TCS</th>
<th>Temenos</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component-Based Architecture</td>
<td>4.0</td>
<td>1.9</td>
<td>1.9</td>
<td>3.7</td>
<td>3.8</td>
<td>2.9</td>
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<tr>
<td>Internality</td>
<td>3.8</td>
<td>2.7</td>
<td>2.4</td>
<td>3.7</td>
<td>2.6</td>
<td>4.2</td>
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<tr>
<td>Interoperability</td>
<td>3.7</td>
<td>2.9</td>
<td>2.7</td>
<td>3.9</td>
<td>3.7</td>
<td>3.7</td>
</tr>
<tr>
<td>Functional Granularity</td>
<td>4.1</td>
<td>2.5</td>
<td>3.3</td>
<td>3.8</td>
<td>3.5</td>
<td>4.2</td>
</tr>
<tr>
<td>Small-Bank Segment</td>
<td>3.1</td>
<td>2.1</td>
<td>3.8</td>
<td>4.2</td>
<td>2.9</td>
<td>4.4</td>
</tr>
<tr>
<td>Midsize-Bank Segment</td>
<td>3.3</td>
<td>1.5</td>
<td>2.7</td>
<td>4.7</td>
<td>3.3</td>
<td>3.8</td>
</tr>
<tr>
<td>Large-Bank Segment</td>
<td>3.1</td>
<td>1.9</td>
<td>1.0</td>
<td>2.8</td>
<td>2.0</td>
<td>3.4</td>
</tr>
</tbody>
</table>

As of 31 July 2020

Source: Gartner (August 2020)
Table 3 shows the product/service scores for each use case. The scores, which are generated by multiplying the use-case weightings by the product/service ratings, summarize how well the critical capabilities are met for each use case.
Table 3. Product Score in Use Cases

<table>
<thead>
<tr>
<th>Use Cases</th>
<th>EdgeVerve Systems</th>
<th>Intellect Design Arena</th>
<th>Mambu</th>
<th>Oracle</th>
<th>TCS</th>
<th>Temenos</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Bank/Simple Deployment</td>
<td>3.70</td>
<td>2.34</td>
<td>3.50</td>
<td>3.96</td>
<td>3.26</td>
<td>4.28</td>
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<tr>
<td>Small Bank/Complex Deployment</td>
<td>3.81</td>
<td>2.40</td>
<td>2.97</td>
<td>3.96</td>
<td>3.51</td>
<td>3.90</td>
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<tr>
<td>Midsize Bank/Simple Deployment</td>
<td>3.76</td>
<td>2.35</td>
<td>2.88</td>
<td>3.99</td>
<td>3.52</td>
<td>3.83</td>
</tr>
<tr>
<td>Midsize Bank/Complex Deployment</td>
<td>3.78</td>
<td>2.31</td>
<td>2.53</td>
<td>3.87</td>
<td>3.55</td>
<td>3.59</td>
</tr>
<tr>
<td>Large Bank/Complex Deployment</td>
<td>3.70</td>
<td>2.25</td>
<td>2.07</td>
<td>3.54</td>
<td>3.29</td>
<td>3.41</td>
</tr>
<tr>
<td>Worldwide Multinational Deployment</td>
<td>3.74</td>
<td>2.44</td>
<td>2.76</td>
<td>3.91</td>
<td>3.22</td>
<td>3.95</td>
</tr>
<tr>
<td>Challenger Bank Deployment</td>
<td>3.40</td>
<td>2.19</td>
<td>3.36</td>
<td>4.06</td>
<td>3.18</td>
<td>4.09</td>
</tr>
</tbody>
</table>

As of 31 July 2020

Source: Gartner (August 2020)
To determine an overall score for each product/service in the use cases, multiply the ratings in Table 2 by the weightings shown in Table 1.

Gartner Recommended Reading

Some documents may not be available as part of your current Gartner subscription.

“How Products and Services Are Evaluated in Gartner Critical Capabilities”

“Research Index: Core Banking Selection Criteria That Matter”

“Magic Quadrant for Global Retail Core Banking”

“A Banker’s Guide to Core Banking Solutions for Western Europe”

“A Banker’s Guide to Core Banking Solutions for the Middle East and Africa”

“A Banker’s Guide to Core Banking Solutions for Mature Asia/Pacific”

“A Banker’s Guide to Core Banking Solutions for the Emerging Asia/Pacific Region”

“A Banker’s Guide to Core Banking Solutions for Latin America”

“A Banker’s Guide to Core Banking Solutions for North America”

Evidence

Gartner surveyed all the most important CBS vendors operating in the world in September 2019 as part of our 2019 Global Core Banking System Survey. Sixty vendors were surveyed for a total of 87 products actively sold in the CBS marketplace. These products accounted for over 12,000 in-production installations around the globe. Gartner verified more than 5,000 of such installations.

The six products (and vendors) presented in this Critical Capabilities report are the same as those of the Magic Quadrant. Moreover, they are the result of a huge refinement and skimming work to provide the top global and retail core banking products. Nonetheless, other vendors may still be strong enough to compete in one region (albeit not globally) or in other subsectors (for example, private or corporate banking) and therefore are worth considering in a CBS selection process side by side with these six vendors. For such regional analysis, we refer the reader to our banker’s guides reports shown in the section on recommended reading.

Note 1

Taxonomy of Regions

This report uses a specific Gartner taxonomy for defining each region — specifically:
- **Eastern Europe:** Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Estonia, Kosovo, Latvia, Lithuania, Macedonia, Moldova, Montenegro, Poland, Romania, Serbia, Slovakia, and Slovenia.

- **Emerging Asia/Pacific:** This includes all countries in the Asia/Pacific rim, excluding the ones in mature Asia/Pacific or Greater China.

- **Eurasia:** Afghanistan, Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Mongolia, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

- **Greater China:** China, Hong Kong and Taiwan.

- **Latin America:** All countries in the Americas, excluding the U.S. and Canada.

- **Mature Asia/Pacific:** Australia, Japan, New Zealand, Singapore and South Korea.

- **Middle East and North Africa:** Algeria, Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, the Palestinian Authority, Qatar, Saudi Arabia, Sudan, Syria, Tunisia, Turkey, the United Arab Emirates (UAE) and Yemen.

- **North America:** The U.S. and Canada.

- **Sub-Saharan Africa:** This is a very large subregion that comprises all African countries not included in North Africa.

- **Western Europe:** Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom and other small countries.

**Note 2**

**Minimum Number of Net New Client Wins in the Past Seven Rolling Quarters**

Large client wins are much more difficult than small microfinance institutions’ projects. Therefore, Gartner decided to assign a weighting system to new client wins in order to calculate a valid count in meeting the active market presence criteria. This change was necessary to adjust for such differences between vendors that claimed 50 new, very tiny installations, and others that could claim only one or two large deliveries. For this reason, Gartner introduced a weighted system to evaluate that net new client count and, specifically, provided the weighting system across different bank tiers.

**Critical Capabilities Methodology**

This methodology requires analysts to identify the critical capabilities for a class of products or services. Each capability is then weighted in terms of its relative importance for specific product or service use cases. Next, products/services are rated in terms of how well they achieve each of the critical capabilities. A score that summarizes how
well they meet the critical capabilities for each use case is then calculated for each product/service.

"Critical capabilities" are attributes that differentiate products/services in a class in terms of their quality and performance. Gartner recommends that users consider the set of critical capabilities as some of the most important criteria for acquisition decisions.

In defining the product/service category for evaluation, the analyst first identifies the leading uses for the products/services in this market. What needs are end-users looking to fulfill, when considering products/services in this market? Use cases should match common client deployment scenarios. These distinct client scenarios define the Use Cases.

The analyst then identifies the critical capabilities. These capabilities are generalized groups of features commonly required by this class of products/services. Each capability is assigned a level of importance in fulfilling that particular need; some sets of features are more important than others, depending on the use case being evaluated.

Each vendor's product or service is evaluated in terms of how well it delivers each capability, on a five-point scale. These ratings are displayed side-by-side for all vendors, allowing easy comparisons between the different sets of features.

Ratings and summary scores range from 1.0 to 5.0:

1 = Poor or Absent: most or all defined requirements for a capability are not achieved
2 = Fair: some requirements are not achieved
3 = Good: meets requirements
4 = Excellent: meets or exceeds some requirements
5 = Outstanding: significantly exceeds requirements

To determine an overall score for each product in the use cases, the product ratings are multiplied by the weightings to come up with the product score in use cases.

The critical capabilities Gartner has selected do not represent all capabilities for any product; therefore, may not represent those most important for a specific use situation or business objective. Clients should use a critical capabilities analysis as one of several sources of input about a product before making a product/service decision.