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# European Financial Services Architecture Shows Clear Strategic Direction

by Jost Hoppermann  
for Enterprise Architecture Professionals



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## European Financial Services Architecture Shows Clear Strategic Direction

Enterprise Architects Need To Consider Value Delivery And Additional Options

This is the second document in the “European Financial Services Architecture Strategy” series.

by **Jost Hoppermann**

with Gene Leganza and Olesia Klevchuk

### EXECUTIVE SUMMARY

In the first half of 2007, Forrester surveyed enterprise architects, IT planners, and IT strategists in European financial services firms to get their take on the current state of architecture strategy. The survey yielded three key insights about their strategies: 1) there is a clear top group of strategic operating systems; 2) strategically positioned architecture elements are well aligned with forward-looking target state architectures; and 3) .NET has significantly increased its strategic relevance in European financial services.

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Forrester interviewed 55 technology decision-makers, such as enterprise architects, at financial services companies in 13 European countries.

#### **Related Research Documents**

[“Hot Application Infrastructure Areas in European Financial Services”](#)

January 25, 2006

[“Application Infrastructure: A Winning Trio”](#)

June 24, 2005

[“European Financial Services: J2EE Is Rising”](#)

January 31, 2005



## EUROPEAN FINANCIAL SERVICES ARCHITECTURE SHOWS CLEAR TRENDS

In the first two quarters of 2007, Forrester surveyed IT decision-makers in enterprise architecture, IT strategy, IT planning, and application development at 55 European financial services companies to get their take on their current situation and future plans for applications, application infrastructure, and IT infrastructure. The survey sample included companies headquartered in 13 European countries as well as the US; the interviewed IT decision-makers were based out of 16 European countries (see Figure 1-1 and see Figure 1-2). Of the responding firms, 56% (31) represented retail and universal banks; 13% (seven) were insurance firms. The remaining participating companies are related to various subsegments of the European financial services market (see Figure 1-3). Sixteen percent (nine) of the participants are very large financial services companies, with total assets of more than €400 billion; 33% (18) were medium-size financial services companies, with total assets between €100 billion and €400 billion (see Figure 1-4).

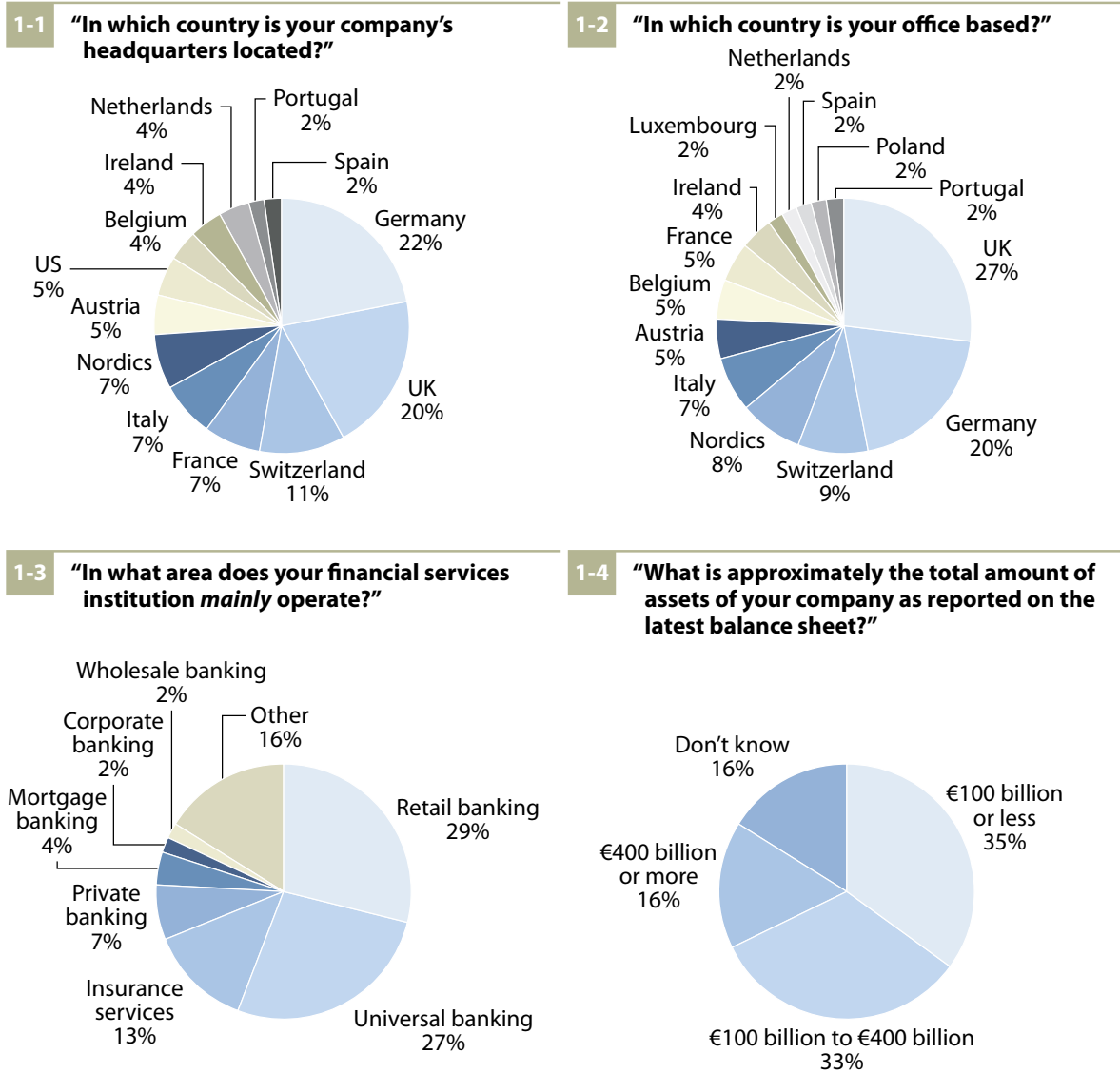
In 2005, Forrester identified the most strategically positioned operating systems in European financial services firms and analyzed the strategic relevance of application infrastructure building blocks such as business process management suites, application servers, and database management systems as well as of related vendors.<sup>1</sup> In 2007, Forrester asked the participants of this survey again about their strategic plans for operating systems and application infrastructure. With data from a representative sample of banks, insurance companies, and other financial institutions, Forrester sees clear trends in these areas.

### Strategic Operating Systems Do Not Cause Huge Strategic Surprises

The top three strategically positioned operating systems are neither exotic nor unexpected — just the opposite. Two of the members of the top group are the same as in 2005:

- **Windows 2003 is the strategic winner.** Sixty-seven percent of the surveyed financial services companies consider Windows Server 2003 to be a strategic operating system (see Figure 2). While this is still the clear majority of respondents, this has dropped by 4% from our survey in 2005, when Forrester asked about the strategic position of Windows 2000/2003.<sup>2</sup>
- **IBM z/OS is again in second place.** Sixty percent of the surveyed firms see IBM's z/OS as a strategic operating system. z/OS has improved slightly on 2005, when a little more than half of the surveyed firms considered z/OS to be strategic.<sup>3</sup>
- **Sun Solaris is back on the winner's podium.** Sun Solaris has regained its "historical" relevance in European financial services. While the participants of the 2005 survey ranked Sun Solaris fifth, with only 32% of the "votes," the 2007 survey shows a different picture: 44% of the surveyed firms consider Sun Solaris to be strategic — thus making Solaris the third most strategic operating system in European financial services.

**Figure 1** Participating Firms Represent The European Financial Services Market



Base: 55 European enterprise architects at financial services firms  
(percentages may not total 100 because of rounding)

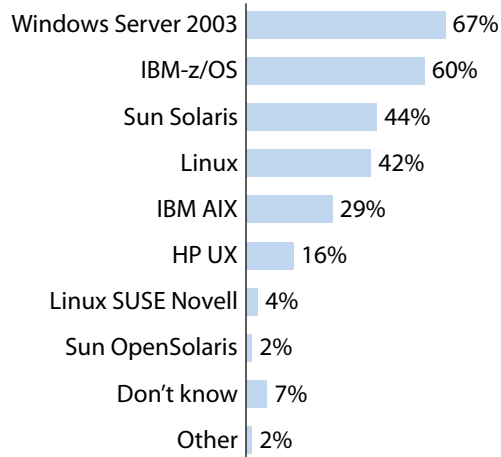
Source: European Financial Services Architecture Strategy Survey 2007

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Source: Forrester Research, Inc.

**Figure 2** The Usual Suspects Lead The Operating System Race

**“Which operating systems do you consider to be strategic?”**



Base: 55 European enterprise architects at financial services firms  
(multiple responses accepted)

Source: European Financial Services Architecture Strategy Survey 2007

43828

Source: Forrester Research, Inc.

- **Linux has lost traction.** Forty-two percent of the surveyed financial services firms say that Linux is a strategic operation system.<sup>4</sup> While this still puts Linux in a strong fourth place — only two percentage points behind Solaris — it is also a surprisingly weaker position than in the previous survey: In 2005, 52% of the surveyed firms said that they saw Linux as a strategic operating system.
- **The rest of the bunch shows mixed behavior.** Sixteen percent of the surveyed financial services firms perceive HP-UX as a strategic operating system, up from 9% in 2005. IBM AIX has lost strategic traction: While 29% think that AIX is still a strategic choice for their financial services firm, 36% of the survey participants considered AIX to be strategic two years ago.

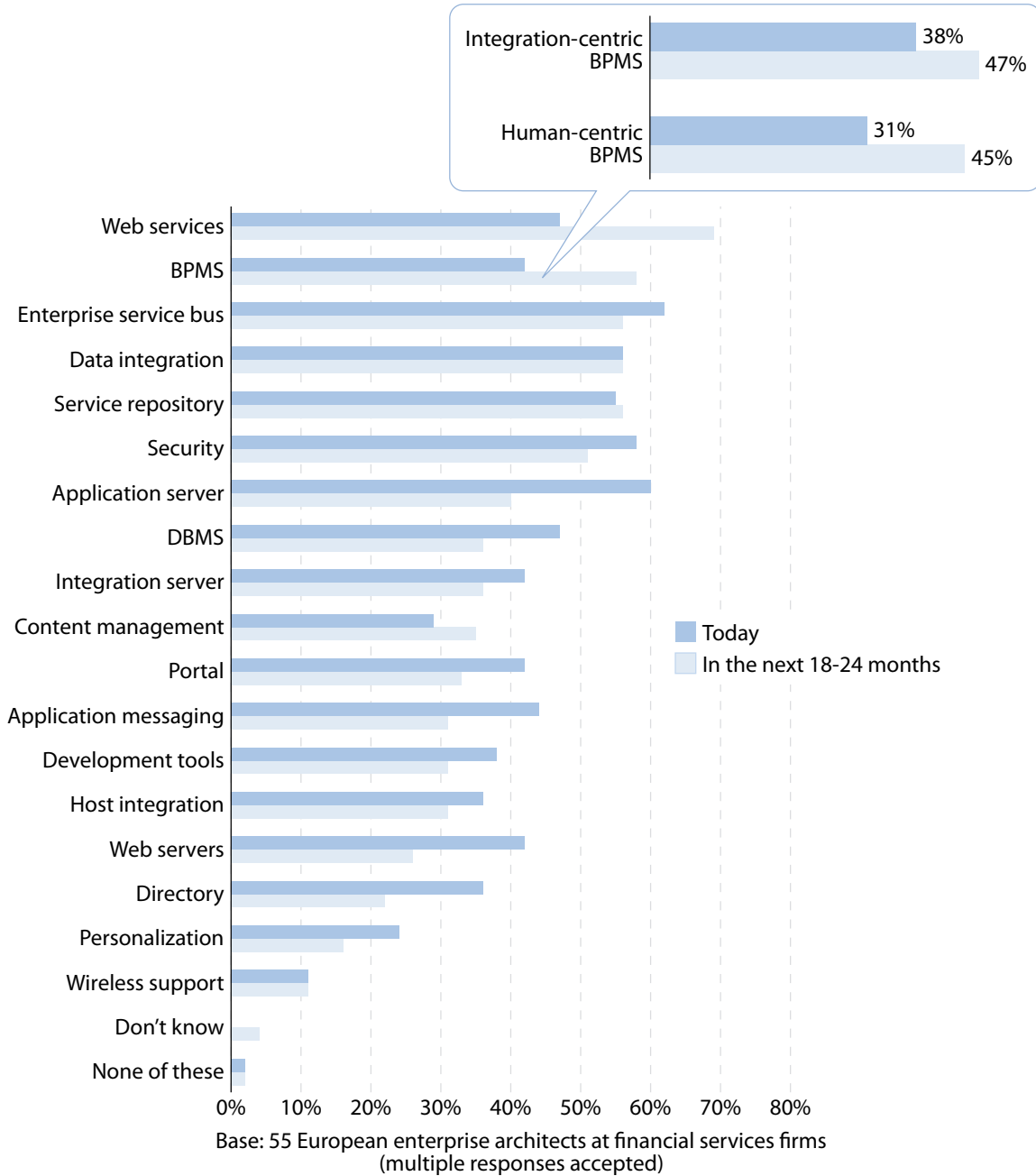
## Financial Services Firms' Application Infrastructure Strategy Shows SOA Alignment

Some application infrastructure building blocks are less strategically important today than European financial services firms would have expected them to be in 2005. Nevertheless, the financial services firms surveyed expect some of these building blocks to increase in strategic importance during the next 18 to 24 months to become part of the architecture. There are some clear centers of gravity:

- **Web services are a little less relevant than expected — but are catching up.** Fifty-seven percent of the participants in the 2005 survey expected Web services to be one of the most strategic architecture building blocks for their company in the next 18 months.<sup>5</sup> The 2007 survey showed that European financial services companies still perceive Web services as a highly strategic technology today; however, they don't see it being the technology with the most strategic relevance for another 18 to 24 months (see Figure 3-1). Currently, 47% see Web services as strategically relevant, while 69% of the surveyed firms view them as strategically relevant in the future. The bottom line? Web services are the architecture building block with the strongest growth in strategic relevance between today and the end of 2008/2009 — and the most strategically relevant architecture element in that time frame (see Figure 3-2).
- **Three strategic technologies follow Web services.** In the next 18 to 24 months, enterprise service bus (ESB), service repository, and data integration will join Web services in the top group, but lagging by some 13 percentage points. Today, all three of them are strategically more important than Web services. The difference between the three? Services repository will gain strategic traction, ESB will lose some “votes,” and data integration will neither win nor lose.
- **Business process management suites (BPMS) remain a key topic.** In 2005, 60% of the surveyed firms expected business process management and workflow to be a strategic topic in the next 18 months —making it *then* the most strategic architecture element in 2007. Today, 38% of the surveyed firms believe that integration-centric BPMS (IC-BPMS) is a strategic architecture element — and 31% see human-centric BPMS (HC-BPMS) in the same light. Overall, only 42% of the participants think that at least one of the two BPMS flavors is strategically relevant for their firm today. However, BPMS is catching up: 47% of the respondents think IC-BPMS will be a strategic architectural building block in 18 to 24 months, and 45% think HC-BPMS will be a strategic architecture element in the future. And 58% see BPMS overall as strategic in the next 18 to 24 months — making it a member of the top group and ranking at No. 2 after Web services.

**Figure 3** Strategic Application Infrastructure Targets For Next-Generation Architecture

**3-1 "Which of the following architecture building blocks do you consider to be strategic for your financial services institution?"**



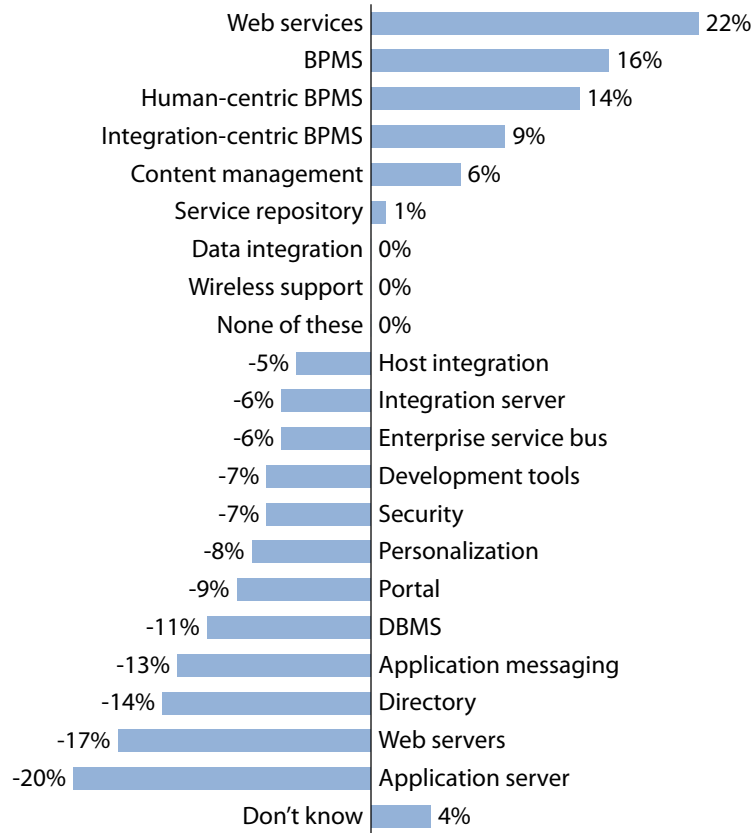
Source: European Financial Services Architecture Strategy Survey 2007

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Source: Forrester Research, Inc.

**Figure 3** Strategic Application Infrastructure Targets For Next-Generation Architecture (Cont.)

**3-2 The changing importance of architecture building blocks during the next 18 to 24 months**



Base: 55 European enterprise architects at financial services firms  
 (multiple responses accepted)

Source: European Financial Services Architecture Strategy Survey 2007

43828

Source: Forrester Research, Inc.

### Installation Numbers And Investments Don't Link Directly With Strategic Position

The top group is trailed by security, a midtier group of four comparably mature technologies, as well as a group of eight architecture building blocks that constitute the lower third of the strategy pyramid. Many, if not most, of these technologies are important when building and buying today's applications. Some of them are even enjoying significant investment, in spite of their lesser strategic status. The survey identified a number of areas that show a difference between their more tactical relevance and their strategic position:<sup>6</sup>

- **Security will lose *strategic* relevance.** The financial services firms surveyed in 2005 expected that security would remain one of the three top strategic topics within the foreseeable future — and they were right. Today, 58% of the survey participants see security as a top strategic topic, making it the clear No. 3 in today's strategy hit list. This is in line with Forrester surveys that show that no bank or investment firm is spending less on security in 2007 than in 2006 — and most are spending more.<sup>7</sup> However, only 51% of the survey participants assume that security will be a strategic topic in 18 to 24 months, an even larger loss of strategic position than for the ESB.
- **Mature technologies will still be well positioned in the future.** Sixty percent of the surveyed European financial services firms consider application servers to be a strategic architectural element today and 40% see it as such in the next 18 to 24 months, putting application servers at No.2 today. Thirty-six percent each state that DBMS and integration servers are of medium-term strategic relevance for their firm; 35% believe that content management deserves a strategic position in their enterprise architecture plans. These four technologies constitute a midlevel group that will remain strategically relevant in the next 18 to 24 months. However, with the exception of content management, these topic areas will lose strategic traction compared with today, with application servers being the strongest loser of *all* architecture building blocks.
- **The “lower third” loses relevance.** About a third or less of the participating European financial services firms think that portals, application messaging, and other architectural building blocks like host integration and personalization will be strategic in the future. Within the next 18 to 24 months, only wireless support will enjoy the same — alas, low — strategic position that it has today. All of the other remaining seven categories of this group will be less important than they are today — with Web servers, directory, and application messaging losing most as far as strategic positioning is concerned.

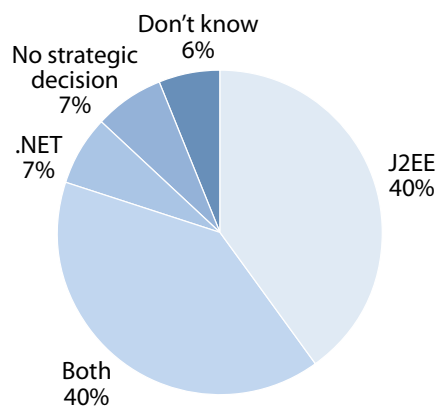
### .NET Is Starting To Catch Up With J2EE — But Not On Its Own

Two years ago, Forrester stated that J2EE had increased in popularity with European financial services firms following a period in which their preferences were unclear.<sup>8</sup> Today, the situation has changed: Coexistence is the clear winner (see Figure 4).

- **Pure .NET has caught up — a tiny bit.** Seven percent of the surveyed financial services firms say that they use .NET at a strategic level — as opposed to at a tactical level with point solutions. This is a clear, albeit small, increase compared with the 2005 survey, when it gained 3% of the “votes.”
- **Pure J2EE is still strategically very important.** Forty percent of the survey participants say that they deploy J2EE strategically. While this indicates that a huge number of firms are still interested in an “ideally” pure J2EE environment, this group is crumbling: In 2005, 56% said that they deployed it in a strategic way — a drop of nearly a third.
- **The strategic coexistence of .NET and J2EE is the overall winner.** Forty percent of the survey participants believe in the strategic coexistence of J2EE and .NET. This is a steep increase compared with 2005, when only about a quarter of the survey participants considered coexistence as a good path toward their target state architecture.
- **Not having a strategic direction is less and less of an option.** Seven percent of the survey companies state that they have no defined strategic direction — a drop from 11% in 2005.

**Figure 4** The Strategic Coexistence Of .NET And J2EE Wins In European Financial Services

#### “Do you strategically use J2EE and/or .NET?”



Base: 55 European enterprise architects at financial services firms

Source: European Financial Services Architecture Strategy Online Survey 2007

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Source: Forrester Research, Inc.

## STRATEGY SUPPORTS A BALANCED APPROACH TO NEXT-GENERATION ARCHITECTURE

The responses of the surveyed financial services firms show that these companies have a target state architecture that closely aligns with the prominent, forward-looking architecture ideas in the industry. Many responses were not huge surprises, and some strategic infrastructure decisions show that the daily work of enterprise architects and other groups working on IT planning is indeed influencing strategic positioning. On a more detailed level, Forrester found that:

- **The most strategic operating systems are the usual suspects.** The top group — Windows Server 2003, IBM z/OS, and Sun Solaris — are old friends. Windows Server shows a slightly weaker strategic position than two years ago — perhaps because some financial services companies have already started to plan for Windows Server 2008, thus making 2003 less strategic for them. z/OS is better positioned than some firms may have expected. A number of the ongoing initiatives targeting the renewal of the application landscape do not plan to use a z/OS-based back-end system but are opting for others, such as Sun Solaris. It seems that Sun's operating system strategy has paid off here; today, Solaris is again one of the three strategically best-perceived operating systems in European financial services.
- **Strategic application infrastructure is aligned with SOA.** The top five strategic architecture building blocks — Web services, ESB, service repository, data integration, and the superset of IC- and HC-BPMS — are technologies that architects can clearly use to design and build a more comprehensive service-oriented architecture (SOA). This creates Forrester's model of a strategic SOA platform.<sup>9</sup> Some elements of the strategic midtier group, such as application server and integration server, will provide further help in building this SOA and integrating existing applications and technology layers. The final outcome? A sound set of layers with SOA-related technologies underneath Web services. A number of homegrown elements, such as a mixture of open source application infrastructure and in-house extensions, may characterize some of these layers in some European renewal initiatives: One European financial services firm, for example, is moving toward what it calls a kind of "hard-wired, in-house-built workflow system" because of high performance requirements — and this need for high throughput rates and low response times may be one of the reasons for the drop in the *strategic* relevance of BPMS *today*.
- **Two strategic winners pave the path toward next-generation architectures.** Web services and BPMS are the two most important strategic architecture elements for the surveyed financial services firms. Forward-looking architectural concepts like the next-generation banking platform clearly position technologies like services — particularly business services — and architectural concepts like the banking process backbone at their center and supplement them with the semantic standardization of business services interfaces.<sup>10</sup> The survey data shows that the majority of European financial services firms consider architecture building blocks that point in this direction to be strategic.

- **.NET is one of the winners in the game.** While .NET is still not as strategically well positioned as J2EE, it nevertheless can be considered the overall winner of the race as far as this 2007 snapshot is concerned. In 2005, the majority of European financial services companies favored J2EE; two years later, there is no clear trend toward J2EE anymore. With J2EE's significant losses, the slight increase in strategic relevance of .NET, and the strong strategic position of the coexistence of both technologies, .NET can be considered the overall winner. This does not mean that there is a stampede of financial services firms toward .NET in general and its deployment in back-end systems in particular. However, this change of direction makes European financial services firms' architecture choices more pragmatic — and aligns European financial services firms more closely with firms in other industries and geographies.<sup>11</sup>

## RECOMMENDATIONS

### FORWARD-LOOKING ARCHITECTURE STRATEGY IS MORE THAN JUST STANDARDS

At a high level, the architecture strategy of many European financial services companies is sound — as far as operating systems and application infrastructure are concerned. At a more detailed level, architects need to tackle a number of challenges — and enterprise architecture (EA) groups still need to make architecture strategy real.

- **Strategic operating systems may need tactical supplements.** Many financial services application vendors tend to offer applications for the most broadly used operating systems. This is particularly true when looking less at the larger banking platform vendors and more at the niche vendors with deep, high-value functionality that have to reach the necessary economies of scale. EA groups need to recognize and plan for this — by aligning their strategies with the more strategic vendors or by following a multiplatform strategy. In the case of homegrown applications, EA groups may also be well advised to architecturally ensure that these applications are not dependent on one hardware platform and operating system, in case the preferred operating system is not up to performance, scalability, system management, or cost requirements.
- **Strategic choices are more than just standards.** An increasing number of EA groups regard .NET and J2EE coexistence as a strategic choice — and this is a good development. Why? In reality, the outcome of a pure .NET or J2EE strategy is a hidden coexistence of .NET and J2EE anyway — a shadow de facto standard without the resources and skill sets needed to support one of the technologies in a reasonable fashion. Those firms that have not yet realized this kind of strategic coexistence should opt for it quickly — even if J2EE remains the *preferred* strategic choice for the back end and .NET is positioned more toward the front end of a given bank. At its heart, it's about the scope and content of standards. However, defining a standard doesn't just mean labeling an architecture building block. Architects must remember that SOA is implementation-agnostic but developers and operation staff are not: It takes time to build out knowledge and skill sets for newly adopted standards.

- **Next-generation architecture is crucial within the renewal imperative.**<sup>12</sup> Many EA groups in European financial services firms have decided in favor of architectural building blocks that align well with next-generation architecture in general and with Forrester's next-generation banking platform in particular.<sup>13</sup> Those that have not yet reached that goal should scrutinize their architecture and strategic technologies to help their financial services firms prepare a foundation for the mandatory move toward renewal of the application landscape and next-generation architecture.
- **Efficient paths to next-generation architecture require EA collaboration and justification.** All EA groups need to recognize that successful EA work is not only about defining pragmatic standards but also — and importantly — about communicating the value of these standards and strategic technology choices to project decision-makers. This includes a collaborative approach to architecture development as well as a target state architecture that continuously realigns with changing business needs.<sup>14</sup> It also includes helping projects reach their goals faster, cheaper, with better quality, and most likely with a higher degree of built-in agility than without these strategic EA choices.

## SUPPLEMENTAL MATERIAL

### Methodology

Forrester conducted a Web-based survey of 55 European technology decision-makers at financial services companies in 13 European countries. We fielded the survey in Q1 and Q2 2007 and selected participants from a list of enterprise architecture professionals, IT planners and strategists, and related roles in European financial services firms.

## ENDNOTES

- <sup>1</sup> Forrester identified the key strategic areas with regard to the deployment of J2EE and .NET, infrastructure management, and application infrastructure in European financial services. See the January 31, 2005, "[European Financial Services: J2EE Is Rising](#)" report and see the May 11, 2005, "[Confused Infrastructure Management Strategies](#)" report and see the June 24, 2005, "[Application Infrastructure: A Winning Trio](#)" report and see the January 25, 2006, "[Hot Application Infrastructure Areas In European Financial Services](#)" report.
- <sup>2</sup> An operating system shakeup was underway. See the May 11, 2005, "[Confused Infrastructure Management Strategies](#)" report.
- <sup>3</sup> The mainframe is clearly not going away. See the May 11, 2005, "[Confused Infrastructure Management Strategies](#)" report.
- <sup>4</sup> Sixteen of the 23 firms that considered Linux to be a strategic operating system mentioned that Red Hat would be their strategic choice.

- <sup>5</sup> The strategic topics of the future are a mixed group. See the January 25, 2006, “[Hot Application Infrastructure Areas In European Financial Services](#)” report.
- <sup>6</sup> Almost 40% of European enterprises will expand their spending on Web applications, followed by spending on infrastructure software. See the March 2, 2007, “[2007 Enterprise IT Budget Outlook: Europe](#)” report.
- <sup>7</sup> Growth in IT spending by banks and investment firms is flat from 2006, despite a positive industry outlook. IT groups are focusing on improving efficiency through investment in productivity tools and infrastructure, while continuing to take a cautious look at outsourcing. Hampered by the cost of keeping the lights on and increased security needs, financial firms aren’t investing the needed dollars in research and development (R&D) to find new ways to grow revenue. Without a focus on innovation and transformation, these firms will not be up to meeting new competitive and consumer pressures. See the August 24, 2007, “[Banks And Investment Firms Need To Spend More On Transformational Technologies](#)” report.
- <sup>8</sup> The majority of European financial services firms now consider J2EE — and not .NET — to be the *strategic* choice. See the January 31, 2005, “[European Financial Services: J2EE Is Rising](#)” report.
- <sup>9</sup> About two years ago, Forrester defined the key elements of a SOA platform. See the March 29, 2005, “[Your Strategic SOA Platform Vision](#)” report.
- <sup>10</sup> The business services layer (the back end), the banking process backbone, and business services ecosystems focusing on semantic standardization of business services interfaces are key elements of the next-generation banking platform. See the May 31, 2006, “[The Next-Generation Banking Platform](#)” report and see the September 11, 2006, “[Business Services Ecosystems In Banking](#)” report.
- <sup>11</sup> Microsoft .NET and J2EE remain the most widely used platforms, and overlap between the two is considerable. See the February 22, 2007, “[The State Of Application Development In Enterprises And SMBs](#)” report.
- <sup>12</sup> The renewal imperative will affect most financial services firms. See the November 13, 2007, “[European Financial Services Apps Show New Focus And Pace](#)” report.
- <sup>13</sup> The components of the next-generation banking platform have arrived. See the May 31, 2006, “[The Next-Generation Banking Platform](#)” report.
- <sup>14</sup> Collaborative architecture development supports governance and individual projects. See the March 15, 2006, “[Strategic Architecture Development In An SOA World](#)” report.

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