

white paper

How to Speed Time to Market in a Next-Generation World.

Benchmarks and strategies for developing and
launching user-centric services.

results

The past ten years have been a time of radical change for the communications industry. Technology advances have come at a staggering pace. Customers are demanding more—faster. As a result, vendors and carriers have transformed their value-added service technical environments to meet the demands of emerging user-centric subscriber requirements.

Competitive pressure, user and industry requirements and technical innovation have had a tremendous influence on how services are built, launched and supported. The technical architecture that ran a small number of very large applications does not support the development and delivery of a large number of various size applications, which are prevalent in today’s marketplace. To thrive in today’s environment, carriers must put the customer first. And, they must deliver solutions in an innovative way, designing products that meet the demands of the highest revenue-producing segments.

Above all, carriers must deliver these solutions faster than ever before. Time to market has never been more important than it is today. Smaller, emerging providers have set a new precedent, delivering products and services in record time. Even with a next-generation technical architecture, can the communications industry as a whole meet these new delivery expectations? What are the impediments to speeding time to market? And, most importantly, how can they be overcome?

This paper takes a close look at the existing development processes of today’s communications providers. It offers statistics on current time-to-market timeframes and discusses real-world strategies for improving them. Finally, this discussion strives to help organizations ensure that processes having an impact on time to market adequately support investments made in next generation technology.

The study.

In March 2005, Unisys commissioned KMRC Research & Consulting to conduct a study to explore typical time-to-market issues of the product development process in the telecommunications service provider industry. In addition, the company wanted to benchmark average timeframes for developing and delivering new products and services. To do this, it surveyed 40 percent of the top 50 mobile and fixed telecommunication providers. The study primarily focused on American and European providers, but also collected data points from providers in Asia-Pacific.

In its research, KMRC took a close look at the development processes of each carrier—from idea inception through launch. The key study questions focused on:

- Length of time for each project
- The most time-consuming steps in the process
- Key challenges to reduce time to market
- Areas that have been improved by the company
- Areas that have been improved through the help of outside consultants

The study classified development projects into four key types:

- Class I included projects with a high degree of difficulty, involving development in the core network, billing, or other support systems.
- Class II involved fairly difficult projects developed with partner relationships, contracts and interfaces.
- Class III projects were less difficult and involved a limited scope/complexity of billing system development.
- Class IV projects were straightforward feature deployments on top of an existing product infrastructure.

KMRC identified twelve key steps that carriers use in the development process, distinguishing those that occur on the front- and back-end.

| Front End | Back End |
|----------------------------------|--|
| 1 Initial Opportunity Assessment | 7 Service-Delivery Network Development |
| 2 Business Case Development | 8 Billing Systems Development |
| 3 Product Pricing | 9 Provisioning Systems Development |
| 4 Business Case Approvals | 10 Partner Relationship Development |
| 5 Requirements/Specifications | 11 Beta Test/Market Trial |
| 6 Regulatory Review and Approval | 12 Market Launch Planning/Preparation |

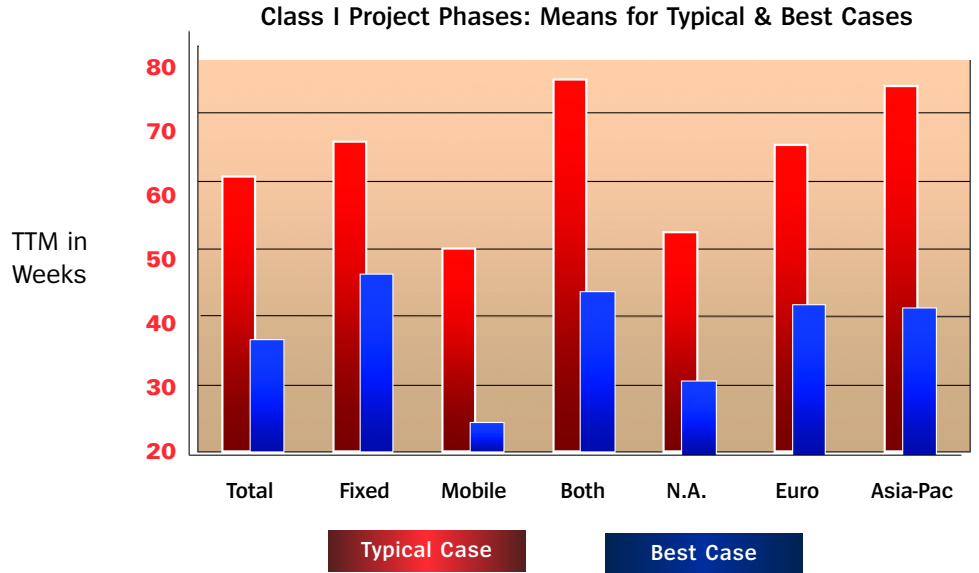
Highlighted benchmark results from the study.

The study focused on the time differences between typical and “best case” projects. Most of the relevant benchmarking data highlights how carriers are changing their organizations to be faster and more market-oriented. However, some of the data suggests that speed also varies by geography and by segment (mobile versus fixed). The study showed that mobile carriers achieve the fastest time to market.

Why mobile carriers? The study highlighted three key reasons. First, mobile development cycles are not as heavily impacted by legacy network and OSS environments. Second, mobile providers are really good at rolling out services under bundling concepts, which reduces the time to develop billing plans. Third, mobile respondents have become better at small launches with third-party applications.

The study provided some interesting data and highlighted important trends. A few of these benchmarks are presented here.

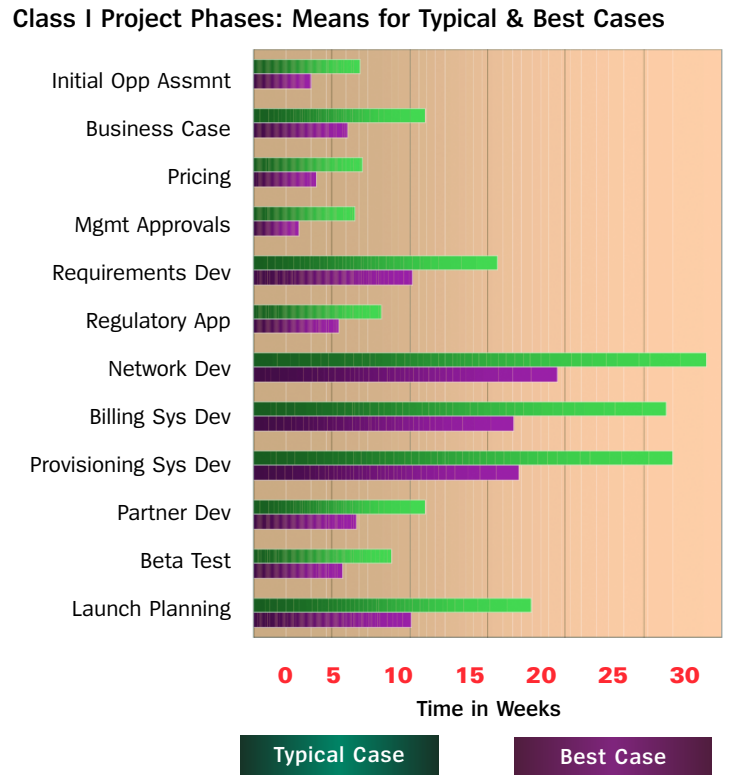
- The graph shows that for typical-case Class I projects, the overall average total time to market is about 61 weeks; fixed-line telcos spend 16 more weeks than do mobile operators and European service providers take 13 weeks longer than North Americans.
- And, it shows that for best-case Class I projects, the overall average total time to market is about 37 weeks—39 percent faster than the typical case; fixed line best cases cut out 23 weeks (37 percent) from total time to market and European and North American telcos shave off roughly the same amount of time going from typical to best case for Class I projects.



The chart above identifies significant differences between the time to market in each of the target areas and also between typical-case and best-case Class I projects. The data is split between mobile and fixed and then split again between geographies.

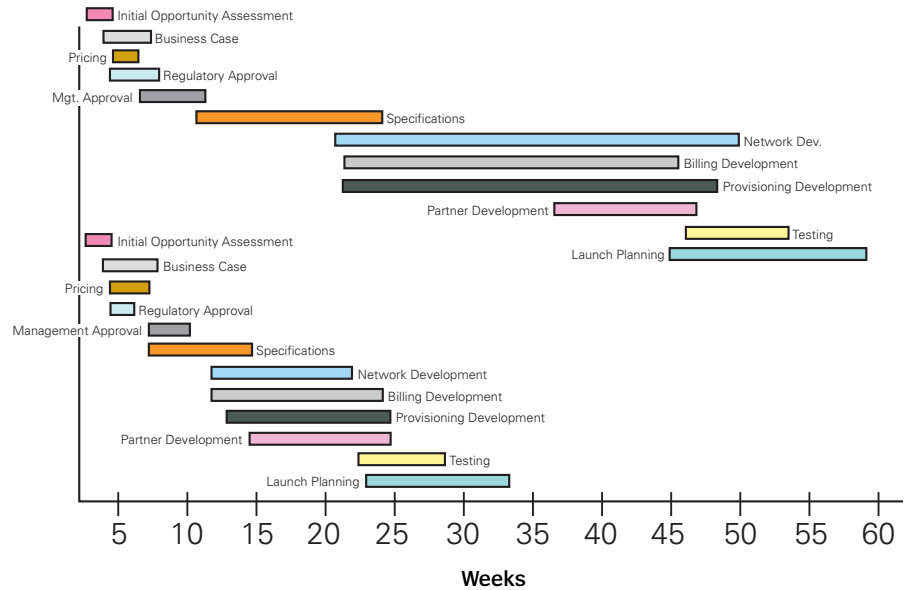
This chart shows that:

- In all of these organizations, pricing and regulatory approvals are done concurrently with or as part of business case development
- The format for management approvals varies substantially, but in all cases there are multiple decision/approval points (“gates”)
- In the “front-end” pre-development phases, the difference between typical and best cases is generally attributed to the presence of a strong executive champion and the inherent scope and complexity of the project
- On the “back-end” (development and operational readiness phases), the difference between typical and best cases is attributed to:
 - Entering the development release cycle with optimal timing
 - The inherent scope and complexity of the project
 - The quality with which the requirements were specified
 - The presence or absence of unforeseen events that necessitate revisiting requirements, switching vendors or siphoning off development resources



The chart above demonstrates the time-to-market issues captured within each stage of the development process. In the front-end development stages, the complexity of the project and the presence of a strong executive champion had a significant impact on timeframes. For the back-end phases, project complexity, quality of requirements and unforeseen events all had an impact on timing.

Typical Case Comparison



Since the stages of development overlap, the chart above illustrates the overall typical case for type 1 and 2 aligned roughly by how the cycles unfold, parallel and serially. In essence, you can see which development stages are shortened and by how much in typical large projects versus the next-generation projects.

Refine business processes for improved time to market.

A key theme that emerged from the research was that the bottleneck in the development of next-generation services is no longer technology, but rather the business processes surrounding product development. In other words, the technology is available to speed development and deployment. It is now the development processes themselves that are slowing things down.

Why? While the IT infrastructure has been upgraded, the processes are still designed for monolithic release schedules for large applications. So, what strategies can companies employ to improve their time-to-market related processes and fully optimize their next-generation technology architecture?

The study identified several core strategies for process refinement that have proven successful. These include:

- Centralization
- More frequent releases
- Executive champion
- Streamline product management and development
- Business case standardization
- Requirement standardization
- Document and refine
- Outsourcing

Centralization strategy.

As our research indicates, most carriers are either moving towards centralizing product management or are making investments to leverage their already-centralized product groups. The research suggests that this type of move helps to ensure that time-to-market issues are adequately identified by the management team and prioritized for the company. This type of strategy:

- Reduces overlap work done in groups outside the main development group
- Reduces the overhead of billing, pricing, provisioning and work
- Ensures that any development is interoperable with existing or planned services.

As development volumes increase due to next-generation service architecture, centralization becomes an even more vital strategy. And, as the company becomes aware of the new possibilities enabled by open architecture, the requests for development increase. Rogue development work will emerge more frequently and overwhelm IT and billing departments, bringing the time-to-market processes to a painful stop. As organizations consider the dynamic needs of user communities and the vast capabilities of open architecture, it is important to keep a clear focus on priorities for the development community. A centralized structure becomes a vital part of this strategy.

While it offers clear benefits, a centralization strategy has challenges as well. Most companies report that this type of strategy can easily disrupt projects under way and demoralize staff who may not be on the core development team. Therefore, careful inclusion of staff considered outside the core—in both the decision-making process and the transition planning process—are critical to the success of the program. During the transition to a centralized model, each physical group should have a voice in project planning to retain business continuity and overcome reorganization behavioral barriers.

Release strategy.

Release strategies often have the largest impact on the time to market for next-generation services. Most carriers surveyed indicate that they still have two to three major releases a year tightly controlled by the IT or network teams. This type of release schedule is absolutely essential for maintaining quality when doing large, network-impacting services. As next-generation services become a reality, there will no doubt still be a need for these major releases. However, IT and network managers should consider adding smaller releases to the schedule for faster-moving and more frequent applications that work within an open, next-generation service architecture. One strategy that emerged during the study was to schedule quarterly releases for smaller development efforts to complement larger ones.

One way to add smaller, more frequent release schedules is by leveraging partners in the development effort. Consider the case of a large, national carrier. This particular carrier knew its development processes and environment weren't designed for fast turnaround, so it turned to its extensive partner network. The company actively encouraged its third-party partners to develop new products and services for it, making application program interfaces (APIs) and software development kits (SDKs) readily available to ensure compatibility.

By leveraging partnerships, large carriers can benefit from the nimble development processes of much smaller shops and more frequently deliver new products and services. In turn, the partners can benefit from the carrier's massive marketing engine.

Consider the benefits of shorter release cycles.

With them, carriers can:

- Deliver more value in shorter amounts of time
- Reduce the risk, because each release requires fewer resources
- Optimize work efficiency and results by forcing project teams to adhere to shorter timeframes for development, test, integration and release
- Ease and streamline the adoption process, since smaller, frequent enhancements are more seamlessly accepted by users.

As a result of the study, KMRC found that mobile companies appear to have more experience with smaller, next-generation applications and therefore have shorter release schedules. This suggests that as next-generation services offered by third parties become more prevalent in all communication segments, release schedules will need to support shorter cycles.

Executive champion strategy.

In many carriers, priorities often shift during development. Any change can cause a massive upset, relegating critical projects to the bottom of the list. Keeping priorities in mind becomes extremely important. Executive sponsorship is both one of the simplest, yet most effective ways to make that happen. The study identified that the appointment of a strong, passionate executive sponsor was vital in keeping projects on track and on schedule. In fact, projects with active executive participation rarely slip and often move up in this process.

Feedback from the study suggests that some carriers are appointing a champion for each project early on in the development process. This is to keep an active executive decision group, retain prioritization and reduce constant starts and stops that often slow down development work. An executive board can help ensure that if priorities are changed, each project is represented in the decision.

As a company's volume of applications increases, executive sponsorship becomes more challenging. To pursue this strategy as volume increases, a company will need to rally sponsorship around the new services. One way to do this is to appoint an executive sponsor for a bundle of services or a target user group. This approach allows the company to continue to retain management power behind prioritization of next-generation services, while minimizing the burden on the executive staff.

Streamline the full product management/development process for smaller development efforts.

For many carriers, the development process is designed to ensure the effective implementation of \$200 million investments. While these large investments are still likely, there is a new set of smaller investments made possible by next-generation architecture. To leverage this architecture and achieve time-to-market goals, carriers are taking a close look at their stage-gate development processes to find ways to shorten this process for smaller efforts.

In most cases, this streamlined process will still require the full business case. However, the number of business case iterations is shortened and the depth of the business case is slightly reduced commensurate with the lower risk from a smaller effort. By following a similar business case “check list,” smaller projects can still be prioritized based on the expected impact to the targeted user group within the market. But the development of the business case for these smaller projects is typically less complex and therefore faster to finalize.

Another approach that was identified in the study was to streamline by omitting steps from the basic process. For example, for lower-risk releases, certain aspects of beta testing are skipped in favor of a limited release.

In either case, streamlined development processes provide the carrier with a competitive advantage. The ultimate payoff? A dramatic drop in development time. In general, the benefits of this strategy are similar to those resulting from scheduling more frequent releases.

The one caveat is that without strict guidelines regarding those projects that can be streamlined, the prioritization process could become complicated and lengthy, negating the time-to-market benefits of streamlining. Many carriers avoid this situation by clearly defining the criteria for streamlining, minimizing any possible debate.

Standardize the business case process.

Most communication companies require the creation of a business case prior to the development of a new product or service. This serves as the main decision-making document or set of documents. While the majority of the respondents use templates to ensure consistency, many experience a slowdown in product development when errors are found in the business case—both before and during development. Often, the business case must be reworked before the project can move forward. This type of problem can cause a domino effect, adversely affecting the credibility of the request, executive prioritization process and, ultimately, the development timeline.

Consider the benefits that were achieved by a large U.S.-based carrier who streamlined by creating a four-pronged product development process. The four key components of the company’s new process included forming product action committees, implementing a structured development process, conducting regular phase reviews and assembling core teams.

By establishing this streamlined approach, the company was able to:

- Enable rapid integration of product development efforts during two acquisitions
- Increase output of new products by 50 percent with revenue contribution growing by 110 percent in year-over-year comparison
- Synchronize evolving new product-line strategies with efficient time-to-market delivery, beating competitors to market with next-generation services
- Rapidly integrate efforts with strategic alliance partners.

Results from the study indicate that project delays typically occur when:

- There is no standardized business case tool
- Common oversights are discovered in the business cases
- Assessments of the scope of work in the business case are dramatically incorrect.

In positive cases, the survey found that many carriers have a business case process champion who ensures consistency, and at the very least can point out differences between cases and the reasons for the differences.

To avoid having business case problems emerge during the actual “build” stage of the development cycle, key stakeholders should be involved during the initial opportunity assessment phase. Stakeholders include key consultants, top suppliers, internal IT managers, customer service, billing and provisioning representatives. This approach greatly reduces the likelihood that the development team will find a surprise after the project has started, and helps swiftly address any issues that do arise.

IT requirements and business case link standardized.

Another key cause of bottlenecks in getting new products to market is the disconnect between product management and development resources, such as IT. Companies waste precious time reworking requirements, particularly if the initial requirements in the business case were not approved by the development community. One way to avoid this painful but common pitfall is to standardize the link between the business case and IT requirements. In fact, some organizations with the fastest time to market can take their most effective business case documents and directly relate them to requirement templates.

Using this approach, each new project offers an opportunity to rebuild the requirements templates to be more accurate from the beginning of the development build stage. These templates drive a consistency that speeds the overall process, but they also allow for creativity. Rework may not be completely avoidable, as the translation between business and technical can be difficult. However, good templates relieve some of the time-to-market barriers in the development process. In today’s next-generation environment, there must be a strong link between business case and requirements so that the increased volume doesn’t stymie the development cycle.

Document and refine.

A better future can be had by studying the mistakes of the past. By documenting development processes and measuring the time cycles, carriers can learn from the past and refine processes over time, greatly speeding time to market. The study indicated that those companies that invest in recording the performance of this cycle showed an ability to adapt best-in-class processes from project to project. They were also able to easily classify development projects based on complexity, and therefore manage them more effectively. In many cases, this measurement process can help refine and enhance product development for a competitive advantage. Each element should be linked to subsequent stages of development for an end-to-end picture, and to find bottlenecks as the process adapts.

Although measuring results can become the benchmark for success, carriers caution that too much administration can overwhelm the development community. Therefore, there must be a balance between measuring results and doing projects. The tools used to measure these actions varied significantly from project management software to spreadsheet tracking. Whatever the tool, it should connect the process end-to-end and not overwhelm the developer’s schedule. Tools that capture intellectual property during the development process also further the quality initiatives and inspire institutional learning.

A strong process blueprint that can easily document flow of work between groups is a powerful way to harvest time-to-market advantages in the communication marketplace. Such a blueprint should also trace dependencies and parallel processes and document benchmarks and results. It can be an important prioritization tool, helping management see the impact of a project on the organization before a decision is made.

Outsource application work.

According to the study, a strategy that is growing in popularity is the outsourcing of application development. The use of open standards for developing next-generation applications has leveled the playing field, allowing a wider range of developers to create new products and services. The two most common ways to outsource include:

- Offshoring, where application development is relocated, usually overseas
 - Development forums, where the Internet gives developers access to source code needed to create new applications
- Mobile carriers, in particular, have begun using outsourced development resources within their processes to help speed time to market.

How consultants are used.

It is rare for a single organization to have all the expertise they need on staff. As such, many companies turn to consultants to help fill in the gaps. There were some specific comments in KMRC's research about the proper use of consultants in the development process. For the most part, the comments focused the need for consultants either on helping with specific stages of the development process or more directly on looking at the end-to-end process. In general, providers need consultants to help:

- Refine TTM processes through external benchmark analysis
- Streamline initial opportunity assessment
- Expedite business case and feasibility analysis stage
- Enhance portfolio management strategy
- Leverage consulting neutral status to improve inter-departmental communications and coordination issues
- Streamline launch preparation
- Improve project management execution

Summary.

To survive in this increasingly competitive market, companies will need to establish a competitive advantage at every opportunity. Fully leveraging time-to-market advantages from next-generation technology is an important step in that process. To do so, companies must identify and remove the development processes bottlenecks that impede time to market. This paper outlines the key strategies in practice today to do just that. Most of the strategies are related to the rapid deployment of smaller, more frequent development efforts. But these strategies also hold promise for large-scale, ongoing efforts, as well. Reduced risk. More value, more often. Faster adoption. All benefits that next-generation technology is designed to deliver.

About Unisys.

Unisys is a worldwide technology services and solutions company. Our consultants apply Unisys expertise in consulting, systems integration, outsourcing, infrastructure, and server technology to help our clients achieve secure business operations. We build more secure organizations by creating visibility into clients' business operations. Leveraging Unisys 3D Visible Enterprise, we make visible the impact of their decisions — ahead of investments, opportunities and risks.

As a global leader in messaging whose solutions are used by more than 150 million subscribers worldwide, Unisys helps clients build customer loyalty and leverage existing resources for greater return. Unisys Communications Ensemble allows service providers to rapidly and cost-effectively deploy advanced messaging solutions in an open environment, delivering reliability, scalability and value in a multimedia world.

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