CEB

Build Better IT Roadmaps

IT Roadmap Builder™ embodies best practices drawn from the study of hundreds of leading organizations to drive more effective IT portfolio decisions. See what's possible when IT planning becomes transparent and collaborative.

"The ability to merge our emerging technology requirements with the model's baseline will add tremendous value to our internal emerging technology evaluation and planning efforts."

IT Strategy and Enterprise Architecture
Oil and Gas Company

Executive Summary

Charting the course of IT investments is one of the most important activities an IT executive or planning team can undertake. Unfortunately, the IT roadmapping processes and tools used by many organizations have shortcomings, particularly in the areas of data quality, standards, risk and value analysis, executive-level visualization, and benchmarking.

These shortcomings can hurt the business in several ways. For example:

- Adoption of new technologies is too early or too late, creating waste, risk, and lost opportunity.
- Business risks build up invisibly in the IT infrastructure due to aging systems and tangled integration.
- Redundancy of technologies and projects remains hidden and hinders IT performance and efficiency.
- There is no way to see the big picture, foster collaboration, or make a compelling case to executives.

To address these issues, the Infrastructure Executive Council of CEB created a new management service for creating, validating, communicating, and acting on IT roadmaps. IT Roadmap Builder is a workflow and decision-support solution that helps IT leaders capture the organization's current status and vision in a collaborative, user-friendly way.

More than just a roadmapping tool, IT Roadmap Builder embodies significant intellectual property around IT technologies, costs, and market forces—drawn from more than a decade of research into IT planning issues and best practices, interviews with hundreds of IT leaders, and the world's largest archive of actual technology roadmaps.

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At one leading bank, IT roadmaps had historically been developed and presented in a spreadsheet-based matrix—lots of trees, but not much view of the forest.

When one of the company's IT architects recast the roadmap to present it in a comprehensive bull's-eye graphic that showed all the critical technology events across IT, executive leadership saw the big picture for the first time.

Immediately they noticed something ominous.

The plan called for the company to roll out nearly 60 new, emerging technologies in 2012. Could they effectively manage that volume of change? Could they tolerate the risk?

Immediately the discussion turned in unanticipated but necessary directions, into ways to modify the IT plan, clarify the risk, and put stronger governance in place. Without the bull's-eye graphic to expose the impending reality, the company would have been blindsided.

IT roadmapping helps organizations reach a consensus about the technologies required to satisfy business needs—and provides a framework to help plan investments and coordinate technology developments to match short- and long-term goals, while reducing cost and risk.

Pitfalls in the Planning Process

Roadmapping is one of the most important activities an IT executive or planning team can undertake. The process generates multiyear plans for moving a function or system from its current state to a desired future state. With the growing complexity and importance of the IT infrastructure and portfolio of applications, a systematic planning framework is more critical than ever.

Done right, roadmapping provides essential governance, guides IT portfolio investment and rationalization decisions, and aligns technology choices to business objectives. It reduces IT costs, supports fairer and more transparent decision making, and enables coordination across business units.

Unfortunately, most organizations fall short of this ideal. Of enterprise architects surveyed by The Corporate Executive Board's IT practice, 70% were either "somewhat" or "highly" dissatisfied with their roadmapping initiatives. Across the 15 activities tracked in the Council's enterprise architecture maturity model, roadmapping and planning showed the highest effectiveness gap—that is, the greatest disparity between the importance assigned to the activity and its maturity.

IT executives and planning teams in all technology domains struggle at each major stage in the roadmapping process: from creating and maintaining roadmaps to communicating them to stakeholders and putting them into action. The most common challenges are the following:

- Lack of common standards and processes: Different IT areas—such as security, infrastructure, and applications—use different roadmapping approaches and definitions. Without a consistent approach, it becomes very difficult to combine roadmaps to get a bigger picture of how decisions are being made or how technology support for the business is evolving.
- Planning in silos: Because of obstacles combining or comparing roadmaps, groups associated with different business units or technology towers make decisions independently, creating unnecessary duplications, added expenses, or unanticipated delays in initiatives.

> "We have business unit roadmaps, but the challenge is to take those and look cross-functionally to create the enterprise view. Where are the dependencies? Are there duplications? There's too much information, and it's too hard to digest."
>
> Chief Architect
> Technology Company

- Lack of visual clarity: Roadmaps are presented in linear or spreadsheet views that don't lend themselves to the aha! moments that make the plan powerful and relevant to diverse audiences. The chosen formats can hide important elements to decision making, such as cost, value or risk information.
- No enterprise-level view: Different groups use different tools—such as Microsoft PowerPoint, Excel, and Visio—so it is difficult or impossible to capture dependencies among roadmaps or roll them up into summary views.
- No forum for information exchange: There is no way to benchmark a roadmap against industry peers or to get instant access to industry insights to help guide decisions.
- Various players have their own narrow perspectives on the roadmapping process. Chief information officers focus on strategic plans to align with the business. Infrastructure architects are concerned with emerging infrastructure technology. Technology managers will talk about refreshes to existing portfolios. Others will focus on standards for applications and rationalization. Everybody feels strongly about the importance of their roadmapping efforts, while being out of sync with the planning that is going on around them.

What are the consequences of these shortfalls and challenges—and the suboptimal roadmaps that result? For one, the technology portfolio may have redundancy in some areas and stranded capacity in others. Large and powerful business groups may be favored over smaller but faster growing ones, regardless of their strategic importance to the organization. Decisions can be colored by out-of-date information. Subject matter experts may not be sufficiently consulted. Decision making may succumb to myopia. The end result is a technology portfolio that costs more than it should, is poorly aligned with enterprise strategy, and may have hidden problems.

> "We're having trouble creating a repeatable process and producing a roadmap that connects business goals to applications so that we can reduce redundancy."
>
> Enterprise Architect
> Insurance Company

When so many organizations are concerned about their IT planning processes, something has to change. How can organizations improve the quality and usability of the core kinds of technology roadmaps: strategic roadmaps, consolidation roadmaps, and lifecycle roadmaps? Can the roadmapping process promote better collaboration between IT and business units and inform better strategic and operational planning decisions?

After working with approximately 100 member organizations that were willing to share their experiences—for better or for worse—the answer was a resounding "Yes."

A Systematic Framework for IT Roadmapping

Recent years have brought a wave of new IT technologies—many of them potentially disruptive, some potentially high value. Some CEB members reported that in this tide of innovation they had been too risk-averse and adopted technologies too late, missing opportunities. Others made costly mistakes by underestimating the risk and adopting too early. Everybody wants to strike that elusive optimum balance: making the right technology decisions at the right time to minimize cost and risk while meeting business requirements.

For years, the Council has been working with organizations one-to-one to integrate various types of IT planning—to link their roadmaps to the strategic plan and to each other—and to bring CEB's broader market knowledge into their roadmaps. As the volume of such requests expanded, the Council sought a way to empower members to be self-sufficient in this process. If they owned the process, they could produce more roadmaps and update them more frequently, while fostering greater internal collaboration and buy-in.

The Council worked with leaders in infrastructure architecture, planning, applications, and security at approximately 100 organizations, who shared their methods for evaluating technologies for risk and cost—and shared their actual roadmaps as well. When these diverse roadmaps were modeled in a way that enabled direct comparison, everybody could see how their decisions and perceptions stacked up against the others, which provided deep context to planning efforts.

What emerged from this research was a clear need for capabilities that were lacking in IT roadmapping tools on the market. The Council built these missing capabilities into a new management solution for creating, visualizing, sharing, and acting on IT roadmaps. **IT Roadmap Builder** is a workflow and decision-support solution that helps IT leaders develop and maintain technology roadmaps that capture the organization's current status and vision in a collaborative and user-friendly way.

Users securely access IT Roadmap Builder from anywhere via a standard Internet browser. The graphical interface is intuitive for even the most nontechnical user. Color-coded visualizations customized for the needs of different audiences make it easy to understand, share, and act on the roadmap.

More than just a roadmapping tool, IT Roadmap Builder integrates significant intellectual property regarding IT technologies, costs, and market forces.

IT Roadmap Builder is a workflow and decision-support solution that helps IT leaders develop and maintain technology roadmaps that capture the organization's current status and vision in a collaborative and user-friendly way. It enables organizations to plan efficiently, budget appropriately, and mitigate risk.

A Guided Tour of IT Roadmap Builder

IT Roadmap Builder provides a systematic and repeatable framework for creating, validating, communicating, and acting on technology roadmaps.

## CREATE—Develop more accurate and consistent roadmaps with less effort.

It is easy to develop highly customized roadmaps, either by creating a new roadmap from scratch or by copying from an existing roadmap, modifying it, and comparing the results.

- **Define the present and future state of the IT infrastructure.** Drag and drop from a list of more than 90,000 technologies that are already coded in the system—or enter your own. Detail can be specified down to the technology type, vendor, product, and version.
- **Create custom technologies and categories.** Categories can be defined in any way that is meaningful to your planning effort, such as Infrastructure, Security, Data Center, End User Computing, and Enterprise Applications.
- **Assign custom names to technologies, if desired.** Behind the scenes, the system retains the original, standardized names to enable apples-to-apples comparison among roadmaps later.

〉 **CREATE**

Easily drag-and-drop any of the more than 90,000 predefined technologies to create a custom roadmap.

Figure 1. IT Roadmap Builder Makes It Point-And-Click Easy to Build or Modify Custom Roadmaps
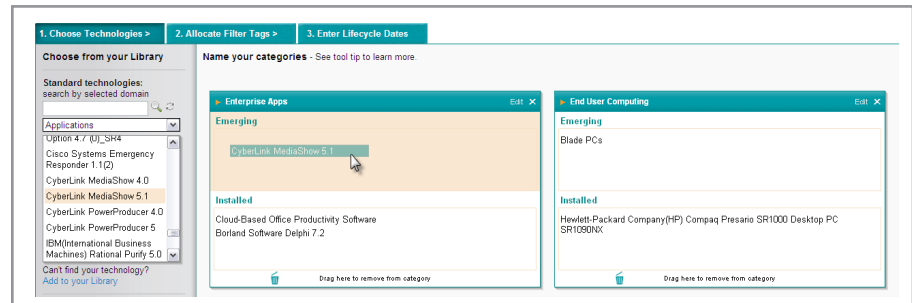
- **Enter lifecycle dates.** Click to indicate when the product will be emerging in the organization, installed as nonstandard, installed as standard, declining, or retired.
- **Tag technologies** to strategic initiatives, geographies, business units, key projects, etc. Tagging lets you later zoom in on a technology roadmap for that specific area of interest.
- **Indicate the value and risk of the technology.** The factors that determine value and risk are defined differently for infrastructure, data center, applications, and security technologies—and within those areas, are unique for legacy and emerging technologies.

Client Site: www.executiveboard.com/information-technology
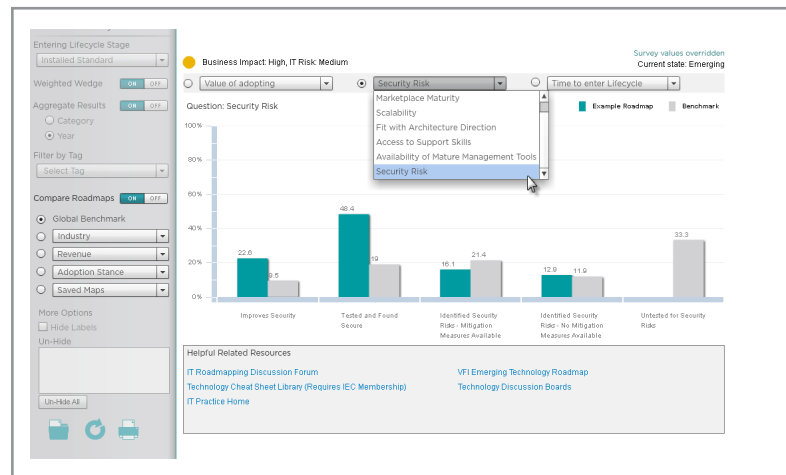www.itroadmapbuilder.com

For instance, when assessing an emerging technology, you would be thinking about how much value the technology could add to the organization, if you were to use it. For an installed technology, you would ask how much value is at risk to the organization if something went wrong, if the technology couldn't scale to meet growth projections, or if you lost vendor support.

Similarly, value and risk factors associated with applications are different from infrastructure. When evaluating applications, you would be thinking about such elements as business innovation and process improvement. When considering new infrastructure technology, you would want to assess the effect on availability, performance, provisioning, and security.

Don't know the answers to some of these issues? No problem. The solution links to a growing wealth of resources from CEB's IT Practice, such as the online Infrastructure Executive Council library, including white papers, reports, and more than 100 executive cheat sheets. The popular cheat sheets provide key planning information about a technology on one page, such as what the technology offers, how to assess the business case, market adoption patterns, vendor landscape, and a sample case study.

In short, significant intellectual property is built into how the assessments are done, to help organizations think through risk and value in an appropriate and consistent way. IT Roadmap Builder gets everyone thinking objectively about the value of the technology they manage to the organization as a whole—using a standard set of criteria.

Figure 2. Assessments of Value and Risk Reflect Context-Specific Best Practices

VALIDATE—Ensure that the roadmap is accurate and meaningful.

IT Roadmap Builder provides structured ways to draw on the expertise of subject matter experts both within and outside the organization to collaborate or corroborate the roadmap.

- Generate a survey to send to relevant subject matter experts in the organization to get their views, all from within IT Roadmap Builder.
- Create provisional roadmaps as part of consensus-building. At the click of a button on the control panel, you can create a copy of an existing roadmap, make changes to ask

〉VALIDATE

Collaborate on technology value and risk assessments to inform investment decisions and validate against peer ratings.

"what if," and compare the outcomes among saved maps. This process can help to surface uncertainties, disagreements, and biases in your organization's technology decisions.

- Compare your roadmap to a global benchmark, or to peers or companies of similar size. You can narrow your benchmarking to only look at organizations with a similar adoption stance (early adopters, fast followers, mainstream, late adopters).

Where there is discrepancy between your roadmap and the benchmark, the visualization shows a line connecting the related data points. Drill down to see where the views of others differ. For example, perhaps your organization is less confident about the market maturity of a certain technology. You can link to the relevant cheat sheet to see if your perception is accurate.

COMMUNICATE—Visualize roadmaps in a clear and compelling way.

Save, print, and share roadmap(s) across the organization, with polished visuals customized for specific audiences and purposes. IT Roadmap Builder presents roadmaps in a unique bull's-eye format that conveys a lot of information in an aesthetically appealing visual.

- Concentric rings represent planning years. Using the slider bar at the top of the screen, you can shift the view to hone in on critical periods.
- Each dot represents a technology. The size of the circle indicates the relative value of the technology to the organization; the color (red/yellow/green) represents the degree of risk associated with it.
- The placement of a circle represents the timing of a selected kind of lifecycle transition event—for example, the time when the organization plans to install a technology as a standard or to retire it. Select a kind of event, and the bull's-eye display shows you at a glance all events of that type within the window of time it represents.
- Zoom in to display detail for unit-level technology managers. Zoom out for executive-level summary views. Use tags to display only the technologies related to a specific business unit, initiative, or project.
- E-mail a link to the saved visualization or capture it as a PDF to print or share. The solution supports large-scale output, up to 36"x48" for a complex roadmap with a lot of technologies to display.

For most organizations, this bull's-eye graphic marks the first time executive leadership sees the big picture of technology planning across all parts of the organization. It provides an essential, at-a-glance view of potential problems and pitfalls, backed by best practices and expertise from more than 100 leading organizations.

Figure 3. The Bull's-Eye Visualization Clarifies Areas of Value, Opportunity, and Risk Across Planning Dimensions
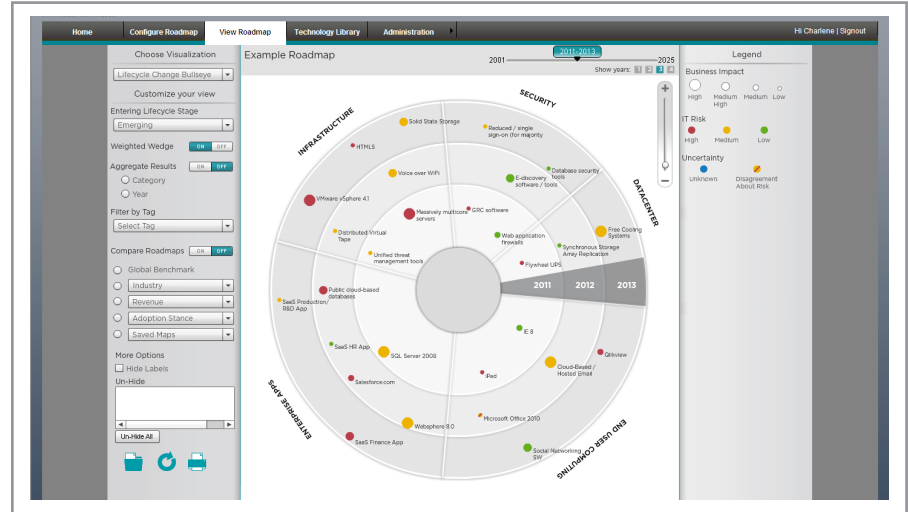
ACT—Determine when action should be taken to reduce risk or capitalize on opportunities.

With IT Roadmap Builder you can do the following:

- Change plans on the fly as previously unknown risks or opportunities are uncovered.
- Resolve areas of uncertainty and disagreement via research accessible through the tool.
- Use the risk/value models to generate prescriptive guidance on important lifecycle decisions.

Get touch-of-a-button clarity on where risk is too great, adoption is timed incorrectly, or technologies should be retired. The Retirement Risk Matrix shows you instantly where your lifecycle planning conflicts with organization needs.

The Retirement Risk Matrix looks at all the currently installed technologies on the roadmap and determines if any should be retired, based on best practices embedded in the solution. The matrix plots technologies along two dimensions:

- The magnitude of business impact faced if a problem occurred with a technology
- The risk that a problem will occur with a technology

Naturally, if there is a high risk of something going wrong with the technology—and a big business impact if that something does go wrong—this is a technology that should be retired.

For technologies where lifecycle dates have been defined, the colors show which technologies have lifecycle plans significantly misaligned with organizational needs. If the planned lifecycle stage at the chosen date is two lifecycle stages away from that recommended by the matrix, it shows as red and should be retired. If it is one lifecycle stage away from where it should be, it is yellow. If it is where it should be, it is green.

The Retirement Risk Matrix also helps contain IT costs by keeping the overall complexity of the IT portfolio in check—balancing technologies being added with others being retired.

> **ACT**
>
> Generate evaluations of your roadmapping decisions, such as a Retirement Risk Matrix to identify technologies that put your business at risk. Understand which technologies you must retire and what should be starting the sunset process.

Figure 4. The Retirement Risk Matrix Reveals Where Lifecycle Planning Conflicts with Organization Needs
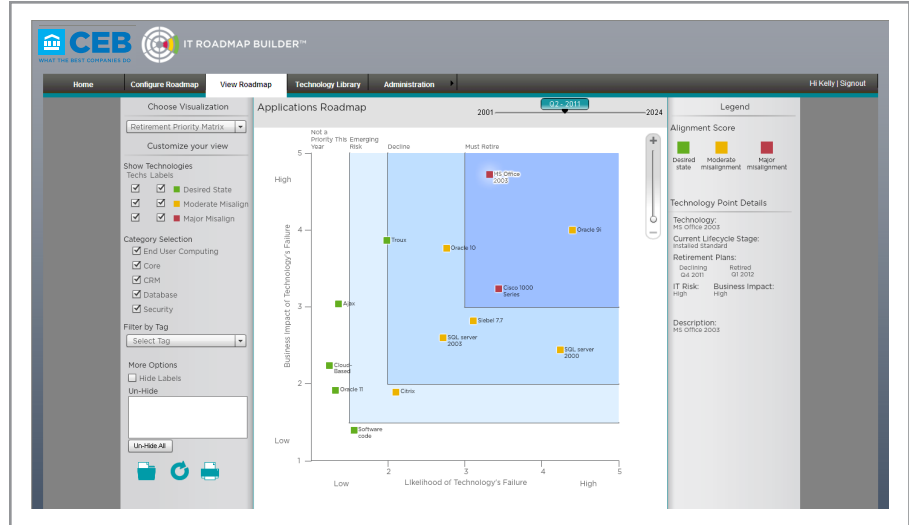
"It was a big success at yesterday's meeting. We definitely want to build on this over the course of the year."

Enterprise Architect
Major Investment Firm

"Overall, the tool looks very slick, performs well, and appears to be a strong foundation so far!"

Director of IT Strategy
Major Pharmaceutical Company

Closing Thoughts

Charting the course of IT investments has always been an important activity, but the need has intensified along with the velocity and magnitude of IT innovation, change, and obsolescence. Accurate and credible roadmaps are essential for any organization that wants to achieve the following:

- Drive consensus among a diverse set of stakeholders.
- Provide a bridge between high-level strategic plans and more tactical operating plans.
- Coordinate IT planning across multiple organizational units and technologies.

Until recently, IT executives and planning teams had three suboptimal choices for developing and using roadmaps:

- Create their own roadmaps from general-purpose tools, such as PowerPoint, Excel, or Visio. Being custom creations, these roadmaps are inconsistent across planning areas within an organization and tend to support only a unit-level view.
- Invest in extensive, high-dollar enterprise architecture tools that include a roadmapping component. Such tools may be overkill for some planning needs, restricted to technical users, and still lack the validation measures that are needed in a fast-changing IT environment.
- Use IT planning tools designed for technology managers, which focus on tactical details rather than executive-level strategic alignment.

IT Roadmap Builder provides the capabilities that these alternatives lack, such as:

- Peer benchmarks to compare your IT roadmaps against others—both within the organization and with industry peers,
- A consistent methodology for assessing value and risk associated with technologies, based on best practices gleaned from more than 100 member organizations,
- More than 90,000 predefined technology entries to ensure data consistency and comparability, even when custom naming conventions and categories are applied,

- A structured way to gain insights from a broader community of subject matter experts and online resources to support the best planning decisions, and
- Polished presentation visuals that can be tailored to the needs of executives, infrastructure architects, technology managers, and business unit leaders.

For these advantages, IT Roadmap Builder has drawn immediate interest from organizations in retail, manufacturing, financial services, health care and life sciences, government, and utilities.

The primary benefit of the solution is being able to proactively identify emerging opportunities, redundancies, cost savings, and risks in the technology portfolio—present and future. Some member organizations foresee extended potential in the solution for driving additional vendor and technology research, doing capability roadmapping, and visualizing risk in other operational areas.

No matter what your roadmapping needs, IT Roadmap Builder enables you to create and validate roadmaps and manage technology planning risk.

"Wow, this is exactly what I was hoping for and beyond. I can also envision potentially rolling this out to other functions outside of IT."

Chief Technology Officer
Federal Government Agency

	Strategic Planning	Lifecycle Planning	Consolidation Management
Requirement	Roadmap technology investments that reflect the CEO's strategic priorities.	Work with technology owners to improve lifecycle planning.	Manage integration challenges and control maintenance costs.
Action	Create a roadmap showing how specific technologies affect business capabilities, then benchmark against peers at the touch of a button.	Use the bull's-eye visual to get a clear view of what will be declining or retired over the coming years. With the click of a button, generate the Retirement Matrix to identify hidden risks.	Technology owners tag their technologies using standard capability tags you provide. Filter roadmaps from different business areas by capabilities, and overlay them to spot duplication.
Result	You can present a full view of your strategic plans internally and externally, with the right view for each audience.	You reduce technology risks to the organization to acceptable levels and reduce costs by 10%.	The IT portfolio is simplified by 30%, greatly reducing maintenance costs from 70% to 50% of the budget.

About CEB

Founded in 1983, CEB provides authoritative data and tools, best practice research, and peer insight to senior executives. The company's 5,200+ member organizations in 50+ countries include 85% of the Fortune 500, 70% of the FTSE 100, and 50% of the Dow Jones Asian Titans 50.

Through this network, more than 200,000 senior executives have access to more than 300,000 corporate best practices, 1,500 benchmarking datasets, and 11,500 analytical tools to drive faster, more effective decision making across all major disciplines and areas of business.

IT Roadmap Builder was built on insights gained from interviews with hundreds of IT leaders (including 130+ enterprise architects at the Council's 2010 Annual Retreat Series), more than a decade of research into IT planning issues and best practices, the world's largest archive of actual technology roadmaps, and the only source for published catalogs of roadmapping processes.

For more information: http://www.executiveboard.com/information-technology