



## CASE STUDY

### Table of contents

- [1. If it's not broken, don't fix it? - The motivation behind Sitefinity move](#)
- [2. Teams organization - achieving productivity with parallel work](#)
- [3. Taking advantage of built-in Sitefinity features](#)
- [4. Custom development - meeting specific business needs with a generic CMS product](#)
- [5. Integrating existing Telerik systems](#)
- [6. Making it snappy - performance side of the story](#)
- [7. The end results - smashing success!](#)

## If it's not broken, don't fix it? - The motivation behind Sitefinity move

"If it ain't broke don't fix it", people say. And usually this proverb sums it all – why spend time and efforts on something as burdensome as building a completely new site from scratch for such an information-rich company as Telerik, when the old one is fully operational? Now that we look back however, we agree it was definitely worth it. Here is why!

### Telerik's old home

If it is a software company, its website undoubtedly accounts for the large part of the sales turnover. What's more, the first impressions a prospect receives are from the way the website looks like, its information flow and usefulness. Last but certainly not least, the website is the face of the company in front of its customers, prospects, industry analysts, competitors, and other institutions.

Telerik's old website played a significant role in promoting the company as a leader in .NET UI components development. Telerik has been growing with a fast step throughout the years adding new products and services, extending its training and support services and materials. The old website's architecture was no longer suitable for Telerik's growing needs.

Telerik's reputation for excellence and pursuit of perfection in the development tool sphere had to reflect on its website presence as well. Selling your product to a customer is not enough anymore – you'd need to offer a complete user experience that starts with the prospect entering your website and extends a way beyond him/her purchasing your product.

### Exponential growth

Besides the growing Telerik portfolio which needed better site exposure, Telerik team also grew a lot during the years and subsequently – the business users that needed to manage the website. The old CMS that powered [www.telerik.com](http://www.telerik.com) was quite rigid making it almost impossible for business users such as marketing and sales teams to take control over it and be completely independent from the website administration and front-end development teams.

The old version of Telerik's website didn't allow for much freedom when structuring the content layout on the different pages. Content types such as videos, webinars, customer testimonials, which become ever more important for attracting leads, were difficult to place and manage on the old website. Telerik's growth has been naturally accompanied with highly increased website traffic. What's more,

Telerik's day-to-day product innovations and enhancements required for a recurring CMS customization process to match the company's needs. It was no longer possible to meet the daily changing requirements for [www.telerik.com](http://www.telerik.com) with the old rigid CMS.

### Valuable experience

Sitefinity CMS is a relatively new addition to Telerik's portfolio however one that's been rapidly developed in the past couple of years. By choosing to replace the old CMS with Sitefinity, we actually chose to walk in the customer's shoes. Going through all the steps of such a major project helped us learn a lot about the product itself and how to further enhance it.

### Teams organization - achieving productivity with parallel work

New corporate website was a major project for Telerik and as such it had involved several teams in the company working together. At the same time it was crucial that business owners have a clear picture of the progress at all times, so that possible discrepancies between requirements and implementation could be ironed out early on in the process. We have immediately noticed that the organization and technical setup would play a crucial role if we were to succeed.

### The teams

Very soon, after the initial discussions, we have decided that the key role in this project will be given to our internal Web Team. Sitefinity Product Team will consult on the best practices regarding Sitefinity, but would treat the Web Team as any other client (well, VIP kind of client for the sake of full disclosure). We wanted to truly eat our own dog food, but at the same time we didn't want to "cheat" by having Sitefinity Team pulling off majority of the effort. Once this was decided, the rest of organization was relatively straightforward to set up.

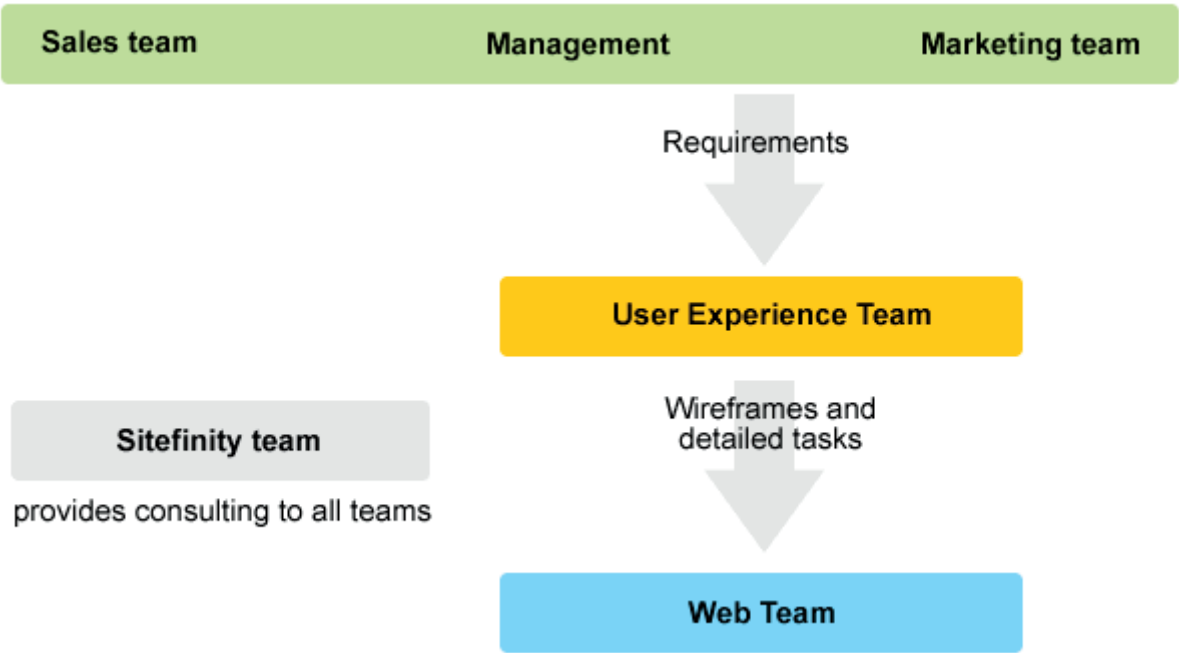


Figure 1 - Internal organization of the teams and workflow process on the new website project

Generally speaking, were it not for Sitefinity, this kind of project would suffer from all sorts of bottlenecks prolonging the release date to infinity. Common obstacles in projects involving multiple teams are waiting on the business owners (Management, Sales team, Marketing team) to come up with final requirements, waiting on Web Team to implement the basic functionality so that User Experience team can start with front-end development or all other teams pushing User Experience team to provide user interface which generally end badly for the project as a whole. Fortunately, Sitefinity did prove itself as a CMS platform which brought a lot to the table and allowed for parallel work of the teams.

## Eliminating common bottleneck #1: Waiting for completed requirements

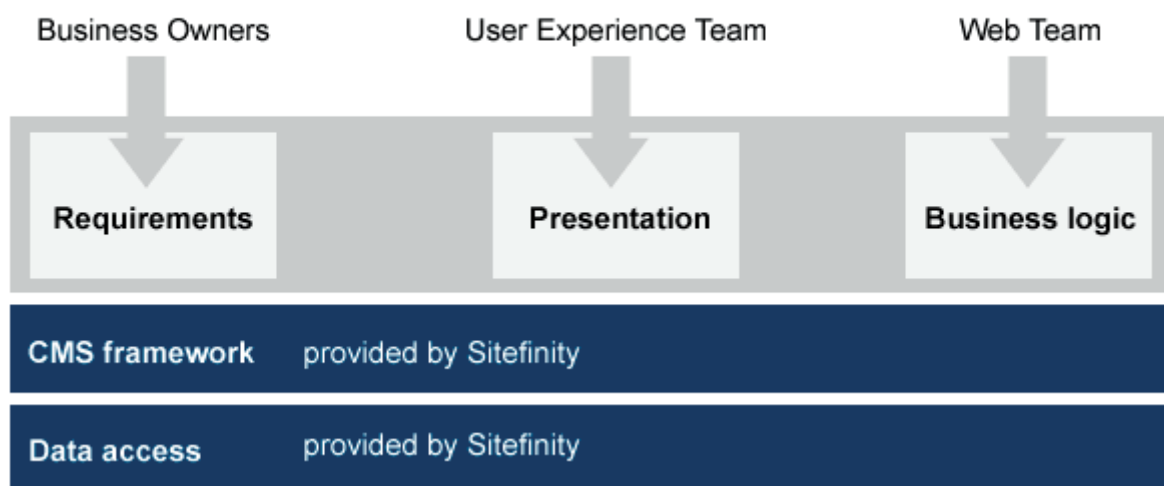
A fortunate thing about transferring the website is that one is not starting from scratch and most of the requirements are already defined. However, transfer is commonly seen as a perfect opportunity to improve, redo or add new functionality. With Sitefinity's highly decoupled architecture, User Experience Team and Web Team were able to pinpoint the areas that will not see bigger change and started the transfer, relying on Sitefinity to allow for later changes in requirements that would come from business owners. One such example is the navigation which was centralized in Sitefinity template, but was easily completely redefined several times during the production cycle.

In addition to this, Web Team knew that they could easily plug any new functionality as a Sitefinity module or service, and do so very late in the project. This has allowed Web Team to start delivering visible results from day one, because there was no need to go through the costly and error prone process of designing the architecture of application and predicting what future may bring. Requirements-wise future would bring a lot over the development period.

## Eliminating common bottleneck #2: Waiting for User Experience to come up with that perfect design

Sitefinity has quietly and without a spectacle brought to the Web Team page templates and fully templated controls. Juxtaposed with standard ASP.NET application or home grown CMS, this powerful feature of Sitefinity allowed Web Team to set up functional user interface and start implementing the business logic behind it, while User Experience team got all the time they needed to come up with clear and usable presentation layer. By taking advantage of the page and control templates, Web Team and User Experience Team were also able to work simultaneously on the same functionality without stepping on each other toes. The decoupled architecture of Sitefinity also made it possible for Business owners to revise requirements "on-the-go" and suggest improvements, to which Web Team would be able to answer promptly.

## Simultaneous feature development



## Eliminating common bottleneck #3: Waiting for Web Team to implement rudimentary functionality

Often it is the case that once the requirements are set, functional prototypes should be developed in order for User Experience Team and Business owners to refine these requirements. Generally, this takes precious time from the implementation team, but also creates a bottleneck where all other teams are waiting. Sitefinity was, however, able to completely solve this problem with its built in controls and templates. Prototypes were up and running in matter of minutes. The initial sections for news, events, and multimedia libraries were rapidly developed giving all other teams a taste of the functionality extremely early in the process.

## The role of Sitefinity product team

Sitefinity product team had a hidden agenda in the whole project - observing the development process, identifying problems, looking for flaws of the CMS and searching for areas which could be improved. Majority of the enhancements introduced in Sitefinity 3.5 (performance) and Sitefinity 3.6 (new backend architecture for modules) came to life largely due to the telerik.com transfer.

Apart from this hidden agenda, Sitefinity team was tasked with consulting web team on Sitefinity best practices and worked tightly with Management, Sales, Marketing and User Experience to steer ideas in right direction early on.

In all honesty, certain features were developed specifically for the needs of the new website (like substitution caching controls), but they eventually made its way into the product in versions 3.5 and 3.6, therefore making this project beneficial to all stakeholders including Sitefinity users.

## Taking advantage of built-in Sitefinity features

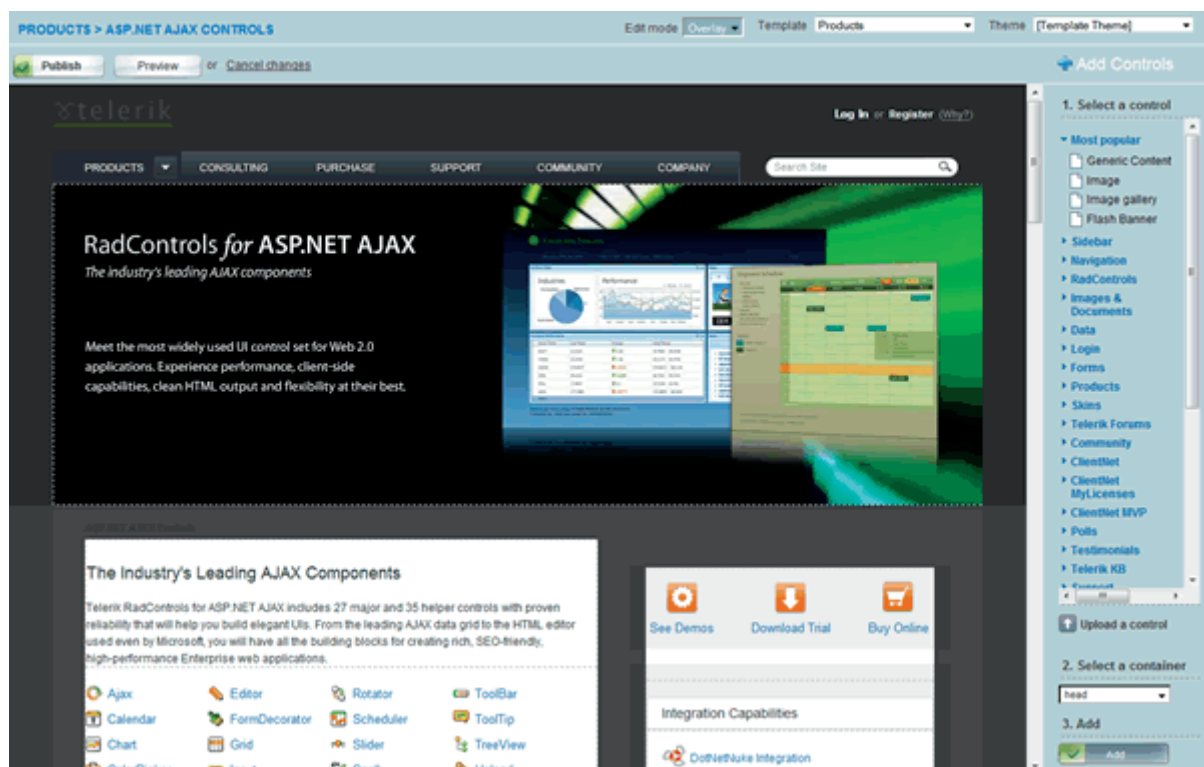
It is our belief that no CMS can provide all features for a website, let alone for a website of the magnitude of telerik.com. However, the built-in features are the reason organizations choose CMS over the Greenfield approach.

In this section we will examine which built-in features Telerik Web Team decided to use and how did they take advantage of those.

### Pages & Templates

Pages and Page Templates were the huge step forward comparing to the old custom CMS which was running telerik.com. Not only that the Web Team was able to streamline its efforts with page editors, templates and themes, but it has finally become possible for business users across Telerik to contribute and work directly with the website.

"It is truly empowering and liberating feeling to be able to work with the website when I need to and not when I fit in the developer's schedule" said Antonia Bozhkova, brand manager at Telerik

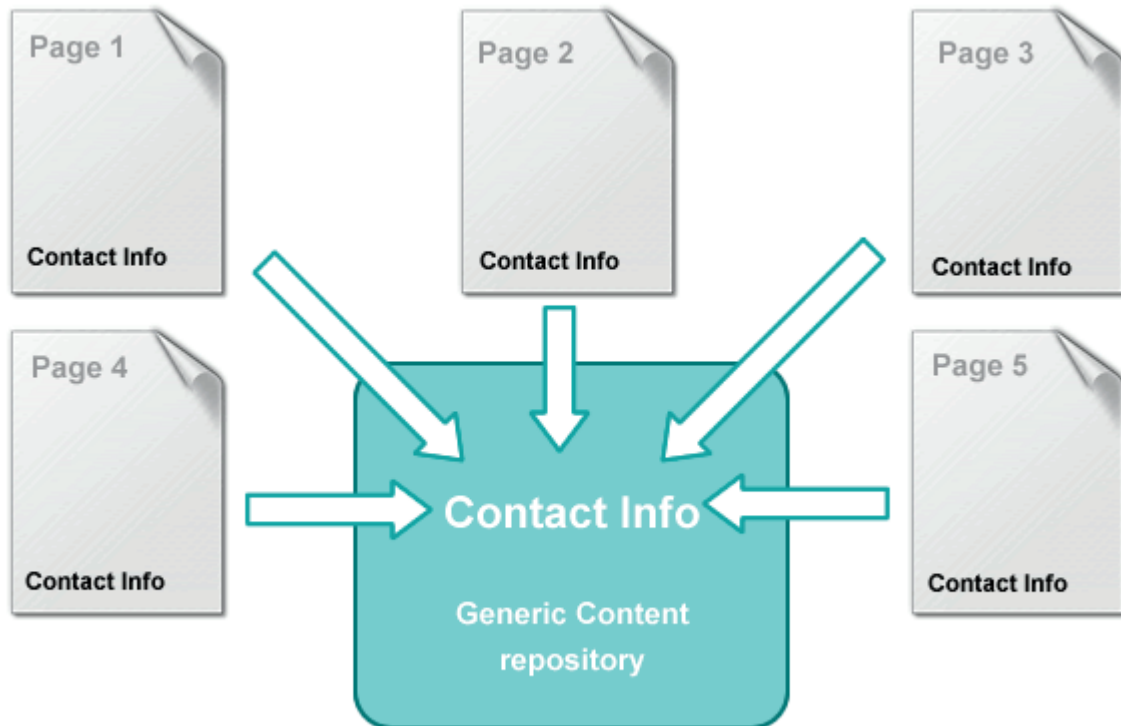


### Generic Content module

It is hard to imagine a Sitefinity based website that does not take advantage of Generic Content module in its basic form and new telerik.com website is no exception here.

In addition to this, the shared content feature of Generic Content module quickly became an essential tool in managing information across vast number of pages. While the usability experts concluded that certain information must be present on numerous locations, Web Team was able to take advantage of

the shared content feature and gain centralized control over this information through Generic Content module.



### News module

There was no question regarding the usage of News module. The module satisfied all the requirements out of the box and proved to be a real time saver for the Web Team. However, quickly after implementing the News on the new telerik.com website, Web Team discovered the great potential in the fact that News module was based off Generic Content module and thus supported unique Sitefinity dynamic meta-data feature. Taking advantage of this feature, Web Team was able to spin off three additional modules without writing any code. All that was needed to be done was to configure additional providers for the News module and modify the templates and following modules were up and running as well:

- Release Notes
- Announcements
- Careers

### Events module

As a dynamic company that takes every opportunity to reach to its community, Telerik has presence at numerous events across the globe. To keep the community up to date, even for the small local events, the new website is using Events module allowing different divisions and offices of Telerik to post events announcements to the central website thus reaching the whole community in a simple and straightforward way.

### Images & Documents module

Naturally, new telerik.com is multimedia rich website, with countless screenshots of the products and various documents accompanying them. Web Team had no doubts about the Images & Documents module for handling all the multimedia website-wide.

### General CMS features

It goes without mentioning that users, permissions, files, RSS, navigation and other infrastructural features of Sitefinity were used throughout the project. Google Mini search engine was also implemented with no issues at all.

## Custom development - meeting specific business needs with a generic CMS product

It was the knowledge that Sitefinity is a perfect platform for custom development that gave us confidence to undertake the task of transferring telerik.com to Sitefinity. We knew that with Sitefinity we will be able to implement all of the needed features on our own and seamlessly plug them in into the main system.

The new telerik.com website features following custom modules, which we will describe in this chapter:

- Products module
- Showcases
- Testimonials

### Products module

The requirement for the products module was that on the top level, there are suites. Every suite can have any number of products, while every product can have any number of features. On a diagram, this structure looks like the one on the image below:

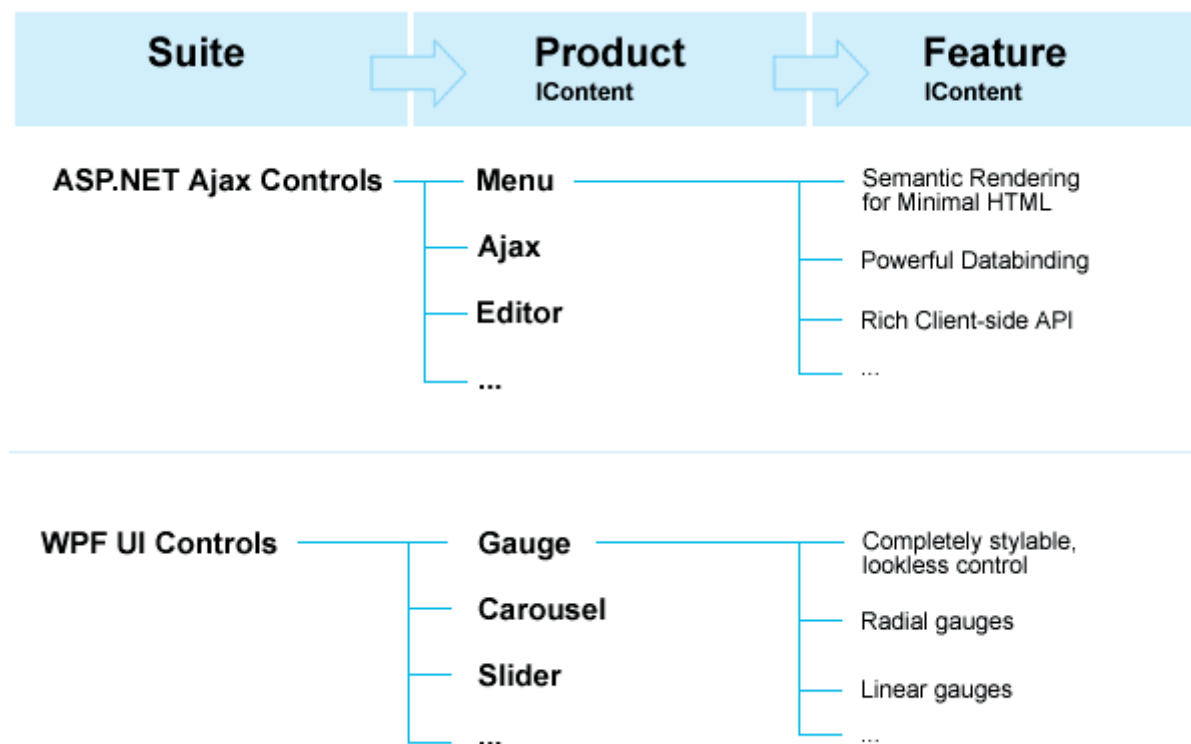


Figure 1: The high level overview of the telerik.com products module

Web Team has decided to implement products module as a Generic Content based module. At the top there would be suites, which would be parents to the collections of products. The idea here was very similar to the way blogs and blog posts work, where instead of blog we would have suite and instead of a blog post we would have a product.

Management had another requirement though and this was that each product should be able to have collection of features, where each feature would have all the possibilities of a content item, such as ability that Meta fields can be arbitrarily declared on a feature. Most importantly, we have noticed how useful content hierarchy would be as a standard Sitefinity offering and decided to implement full content hierarchy for Sitefinity 4.0.

### Showcases and Testimonials module

Showcases and Testimonials are two relatively simple modules, both based on Generic Content module. Both modules are storing content with specific meta data, however, due to some specifics in user interface of the admin area, Web Team has decided to implement them as separate modules and not

simply different providers of let's say Generic Content module (as they've done with Release Notes, Announcements and Careers modules).

## Integrating existing Telerik systems

When the decision was reached that telerik.com website will be overhauled and that the new website will be implemented with Sitefinity, Telerik was already a company with thousands of clients and variety of different systems in place. Probably, the riskiest part of any redesign is making sure that new system will collaborate with others.

The change was in particular sensitive due to fact that Telerik conducts a vast majority of its business online, be it the e-commerce through which clients order software, support for which Telerik is unrivaled in the industry or any other aspect of day to day business. No compromises could be allowed.

Fortunately, Sitefinity is famous for its extensibility and ability to work seamlessly with other systems. Due to various factors, such as resources, availability of the features or simply the maturity of the built-in features provided by Sitefinity, following Telerik systems were left intact and integrated with the new Sitefinity website:

- Forums
- Client.net (Telerik's CRM)
- E-commerce
- Search

### Forums

Forums are the heart of Telerik's support along with the ticketing system and with 250,000 members and even more posts represent valuable resource to Telerik community. While the initial idea was to use Sitefinity's forum module, soon we've noticed several important features that were missing - such as "Vote as answer" and various social capabilities.

The existing Telerik forums have been seamlessly integrated with the rest of the website through the usage of external pages, but more importantly the lessons from telerik.com have been learned and a new, completely revamped, forum module has been scheduled for Sitefinity 4.0 - at which point forums will be transferred to Sitefinity.

### Client.net

Telerik's CRM system called Client.net was never planned to be ported to Sitefinity and there are no such plans at the moment. The system is widely renowned for its qualities and since day one our only goal was to integrate the system with the Sitefinity website.

Fortunately, the open nature of Sitefinity allowed us to accomplish this task with moderate effort and no significant hurdles were encountered along the way.

### E-commerce

One of the Sitefinity's most requested features was requested by Telerik as well. Sitefinity does not have an e-commerce module at the moment and therefore our Web Team had to integrate the existing system with Sitefinity. As the new website was developed, lessons about e-commerce and possible implementations have been learned and as a result, the planning of the e-commerce module has begun.

### Search

At first, search has been overhauled to Sitefinity's built in search based on Lucene.net engine. The initial results were more than satisfactory, however, as the release was approaching, several new requirements appeared - index groups and suggested results - being the major ones. Decision was reached to rollback the changes to Google Mini. The requested features, together with several others, made their way in Sitefinity shortly after and with Sitefinity 4.0 the search functionality will be implemented completely on Sitefinity.

## Making it snappy - the performance side of the story

Sitefinity used to be perceived as CMS for small to medium websites mostly due to its extremely affordable price when compared to mid-market competition. Often, our clients would ask us for the references of large websites to see how Sitefinity would handle higher loads. Also, due to its very simple and user friendly GUI, many prospects accustomed to bulky and complex user interfaces of enterprise

level applications doubted Sitefinity is an enterprise level system.

All these were false assumptions, of course.

Telerik.com proved that Sitefinity can handle tremendous workloads, be it on the public side or on the administrative side - where two hundred or so editors are providing the content on a daily basis. One of the main features that allowed Sitefinity to excel in the response times are advanced caching features that come as a built-in feature.

### Output caching

Vast majority of developers are familiar with output caching in ASP.NET, however let us refresh on the concept briefly. Every time a visitor requests a page, ASP.NET performs numerous actions in order to be able to serve an html page as a response (the version browser can render). While this at one side makes ASP.NET very powerful in so much that it is able to dynamically serve pages, this process is costly in terms of performance. On the websites with hundreds or thousands of visitors per minute, this process starts to slow down the responsiveness of the website.

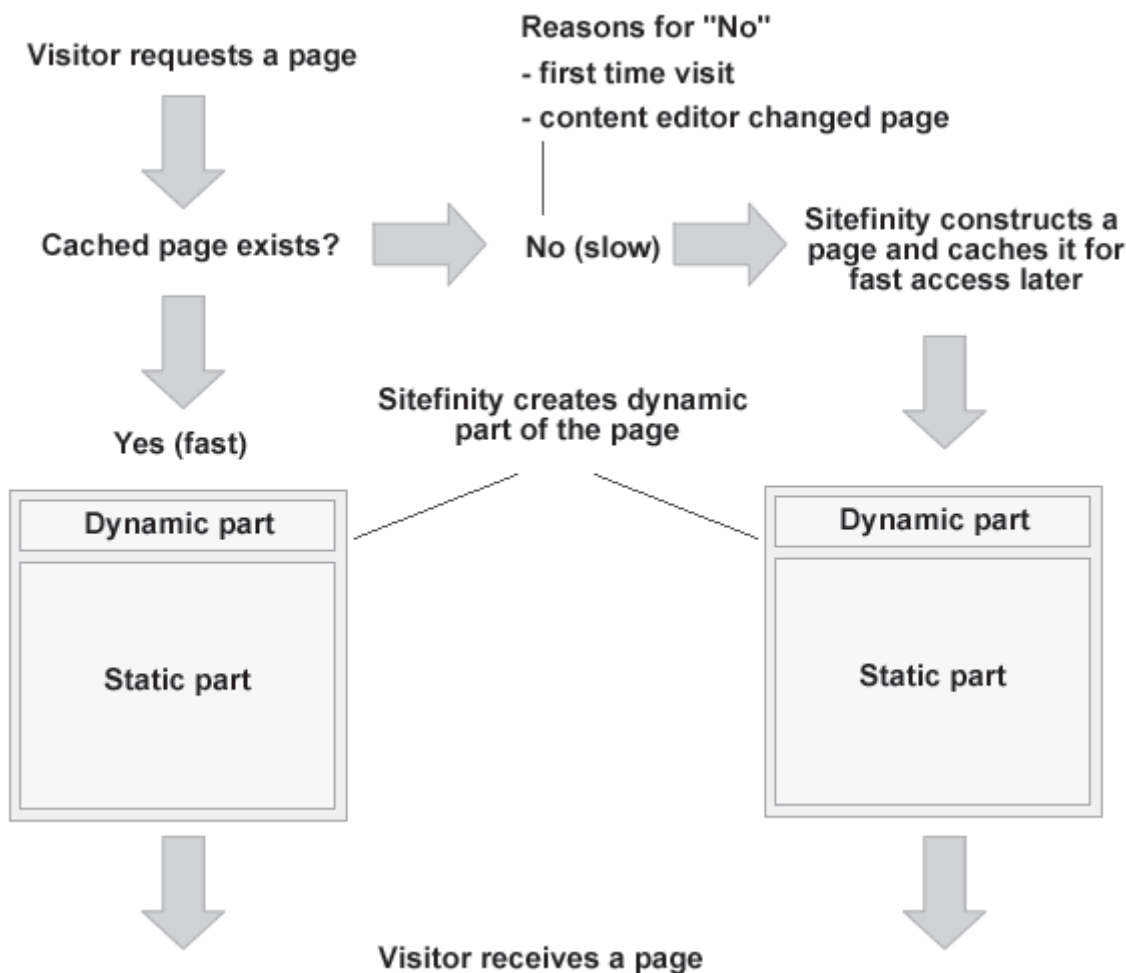
ASP.NET provides a solution to this problem through output caching. Basically, page is being dynamically constructed only once and the resulting html is saved in memory for fast access.

On every subsequent request, visitor is being served the ready html page from memory - thus saving valuable resources.

### Behind-the-scene caching mechanism

The obvious question is, if the pages are constructed only once and then saved, how content editors can change the content. The answer is in the Sitefinity's built in cache-invalidation mechanism. Namely, every time an unsuspecting content editor changes a page or a piece of content, Sitefinity is aware of this change and makes sure that the cached (or saved) version of the page is not served anymore, but rather a new version of the page will be created and saved. While, this is traditionally a rather complex process, Sitefinity does all this automatically behind the scenes. Neither developers, nor content editors need to worry about this.

By taking advantage of the output cache Sitefinity was able to provide Telerik with feature rich content management system, while at the same time give it the responsiveness of static html files.



Page serving workflow in Sitefinity

## Dynamic parts of pages

While caching does provide great performance for high traffic websites, such as telerik.com, we have hit a roadblock early on in the process. Namely, almost every page of telerik.com has a minor part that always needs to be dynamic, therefore rendering output caching almost unusable. This obstacle was overcome though, through caching substitution controls which were debuted in Sitefinity 3.5. Basically, the caching substitution controls allow for the page to be cached as a static page, but inject a small dynamic part in it on every request. This technique is used for login controls and shopping cart featured on each page of telerik.com (e.g. name of the user and logout button). Even though pages are cached and served same to all visitors, the small part of page which is different for every user is rendered dynamically. This way Sitefinity allowed telerik.com to have its cake and eat it too. On one said, pages were cached thus freeing up resources for fast response times, while on the other hand pages were still dynamic and personalized.

## The end results - smashing success!

Undoubtedly, Telerik's new website makes a huge difference. We've received feedback from many customers expressing their happiness from being able to more easily browse and find information on the site. The growing Telerik product portfolio could finally get full exposure on our website.

During the process of team synchronization, planning and development, we felt confident about our choice knowing Sitefinity is the perfect platform for custom development and is also famous for its ability to integrate seamlessly third party systems.

We hope the company's reputation for excellence and pursuit of perfection in the development tool sphere reflected on its website presence as well. The transfer of telerik.com to Sitefinity was a major step for the future development of the CMS which helped us learn a lot from the customer's point of view.