SkyCiv
CLOUD STRUCTURAL SOFTWARE

BENEFITS OF CLOUD COMPUTING

FOR STRUCTURAL ENGINEERS

About this guide

An informative guide to the benefits of cloud computing for structural engineers and some useful tips to improve your productivity in this "cloud"age.

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THE LANDSCAPE

Structural engineers today work in a fast-moving international environment. The need to collaborate with multiple other disciplines from the AEC industry, often round the world, has never been greater. Engineers are expected to achieve even greater performance for their buildings, by cutting down on cost and embodied carbon – making the exploration of different design options essential. Finally, engineering companies need to turn around projects as fast as possible to stay competitive, making automation an attractive option.

One way structural engineers and engineering companies can stay ahead of the curve is to embrace cloud technology. They can harness it to enhance communication, run many sophisticated analyses quickly and automatically, and automate their processes to deliver better buildings in a shorter time.

WHAT IS CLOUD?

It's hard to exist in today's world without hearing about the cloud, but what is it really, and what does it specifically mean for structural engineers? Wikipedia defines the cloud as "the on-demand availability of computer system resources, especially data storage (cloud storage) and computing power, without direct active management by the user".

In simple terms, the cloud is a way of accessing data, software and services via the internet. Whereas previously you needed to have that or that software on your computer, with the cloud, now all you need is a stable internet connection and the right cloud services provider.

For structural engineers specifically, this opens up a number of great benefits. Let's take a look at those in turn, as well as discuss some tips for getting the most out of these technologies.

1 REMOTE MEETINGS

Remote meetings have shot to popularity in the last two years, due to the global pandemic. Zoom, Microsoft Teams, Google Meet and others all enable structural engineers to connect with colleagues across the globe. A particularly powerful aspect of remote meetings is the ability to share your screen. Engineers can now review structural design calculations and BIM models collaboratively by all viewing the same document or model simultaneously, wherever they are in the world.

TIP: One issue can arise with online meetings when a group of engineers are together in person in one room, and a number of others join remotely. This can have the effect of creating two meeting rooms within the one meeting – the in person meeting, and then the remote meeting room. It can be hard for remote attendees to really participate on the same level as their colleagues who are there in person. Avoid this problem with this simple rule for remote meetings: if one person is online, everyone is online.

2 FILE SHARING AND COLLABORATION

Looking at the same model on screen during remote meetings is great, but what about working on those models collaboratively? With the cloud, long gone are the days of having to send a structural model to a colleague or outside party like an architect, wait for their revisions, and then have that model sent back to you. Many structural engineering software vendors support collaborative editing of models directly in the browser, leveraging the power of the cloud to make and share changes to the structural model in near-real time.

For those softwares that don't support editing in the cloud, file storage providers make it easy to upload the model to a single location, which is accessible to many users. Changes can then be made through subsequent uploads, and the history of the model is easily tracked, allowing for reversion to earlier instances of the model, if a design decision is changed.

Finally these models can often be shared as 'view-only' making it easy to communicate the structural design to colleagues, collaborators and project stakeholders.

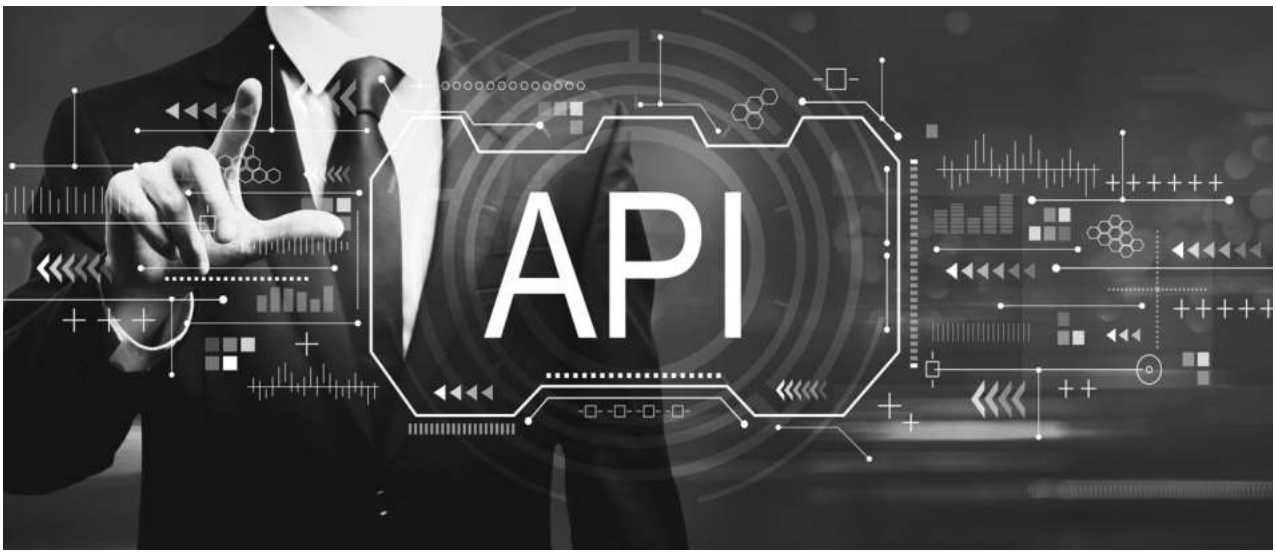
3 WEB APIS

Few structural engineers will be familiar with web APIs – or even standard desktop APIs! “API” is short for “Application Programming Interface”, but in simple terms it means a way to tell structural analysis and design programs what to do, by writing some software code.

APIs open up the exciting possibility to automate parts of your structural analysis and design workflow.

You can instruct your structural program to build a model, run analysis and design, and then report the results to you. This is especially effective for rapidly trying multiple structural schemes, or running repetitive designs

Combine an API with the “access anywhere” philosophy of the cloud, and you have an incredibly powerful tool for running structural analysis and design, automatically, wherever you are in the world.



4 HIGH PERFORMANCE COMPUTING

Structural Analysis is a mathematically intensive task, requiring a powerful PC to run it quickly.

For structural engineers, cloud technology allows them to rely on a lightweight personal computer and leverage the cloud to run heavy structural analysis operations.

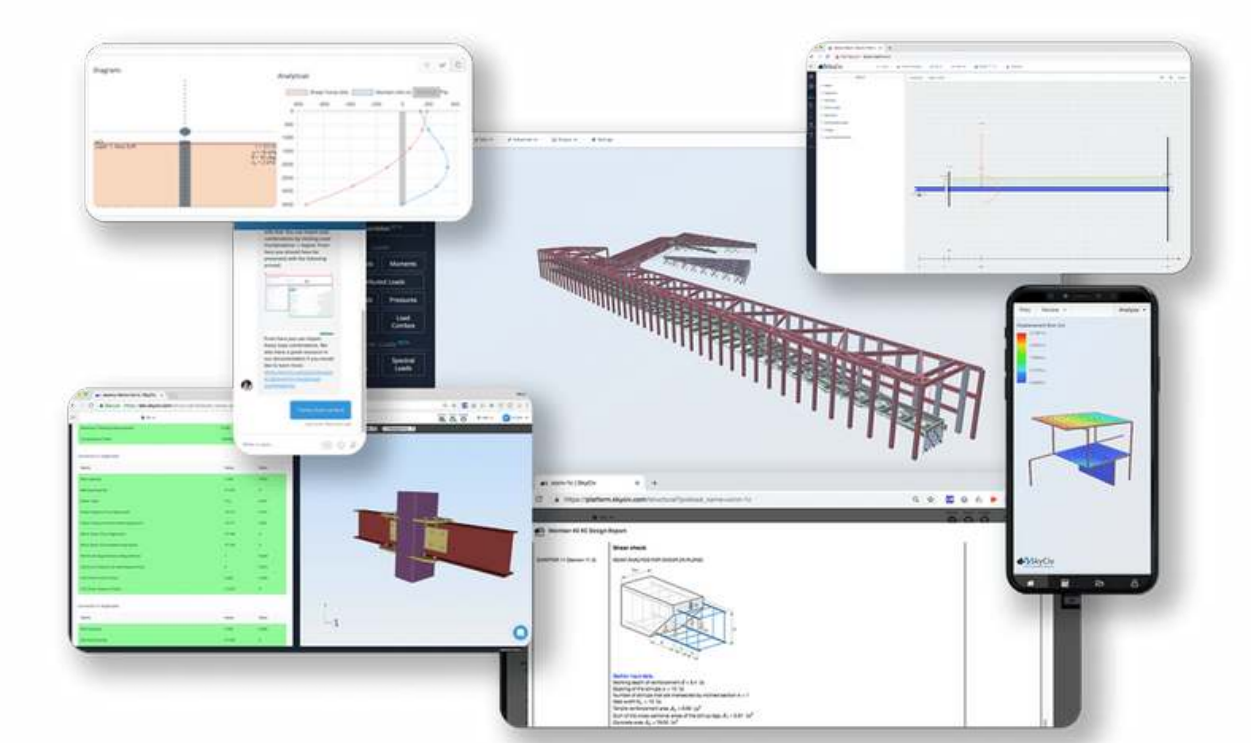
Huge structural models with many members, plates, and loadcases/combinations can be run in the cloud without requiring expensive hardware in the hands of the structural engineer. High performance computing can return results in seconds or minutes for models that previously would have run for hours on a personal computer.

Furthermore, many models can be run simultaneously. Structural engineers can get results faster, understand their project's structural behavior better, and turn projects around more quickly.

SkyCiv Cloud Engineering Software

100% on the cloud, SkyCiv is the first and by far the most powerful structural analysis software on the market.

You can access the full suite of the software from any devices, any where in the world. Enjoy all the benefits of cloud computing we've listed above.



Besides all of that, there are also some benefits that are unique to SkyCiv's structural engineering software thanks to the cloud computing.

Subscription Flexibility

In general, cloud computing gives SkyCiv the power to offer users the most flexibility when selecting software. When the need software aligns with the amount of work secured, this becomes very important for the smaller business owner.

Structural Engineers can now get access to powerful analysis and design software **on a monthly basis**, with the freedom to cancel at anytime. This is important for engineers, who may only need the software for a single project or limited time.

Ramping up in business or adding users and seats? For non-cloud computing software this turns into another forfeiture of productivity.

With SkyCiv based entirely on the cloud, adding users or upgrading/downgrading your subscription level is all up to you. Once account changes are made, they are effective immediately.

Fast Software Support

Software support in the traditional software market usually means submitting a request, exchanging emails and by the end, it make take more than a week, sometimes two to get the answers you need. With cloud computing and user-focused companies, software issues can be resolved in less than an hour. SkyCiv sits on the cloud, which means our engineering support team can see your model and assist you in real time.

Issues that took 12 emails back and forth now take 12 minutes thanks to this collaborative access to the issue that the user is experience live. SkyCiv's support team can work with the model while live conferencing with the user to streamline the information process and focus on solving the problem. This give and take between SkyCiv and the user encourages and grows partnership between the two.

Automatic Updates

At SkyCiv, we update every two weeks, not every two years. With traditional software, there is a need to have regular software updates and maintenance performed on a frequent basis. These updates usually come with maintenance costs and version control issues which can slow down your projects.

Cloud Engineering Software will automatically update/upgrade the software, adding new features, design standards and improvements every two weeks.

It is this seamless and cost-less upgrade process that helps engineers achieve their deadlines, rather than cause delays like traditional software.

Access Anytime from Anywhere

Hate it when you don't have a file you need access to? Or when you have to carry your bulky laptop home or to a job site because you need that program with you? All these issues can be easily eliminated with cloud software.

It allows users to access their files and software at anytime from any computer in the world!

SkyCiv focuses on making their software for the user, which makes ease of access of our top priorities. This is arguably one of the greatest advantages to cloud computing software as it improves the flexibility of where you can work from.

Use your personal computer at home, or on different computers at the office without the need to reinstall software or call your IT specialist to install it for you. Simply log in online and get access - it's that simple!

Less Crashes

Traditional software can take up Gigabytes of space and place considerable stress on a computer's speed. Having these large files open can cause the rest of your computer to struggle and lag.

Cloud Software has little to no impact in this regard.

All the files are held online which means it takes up none of your Hard Disk Drive. It also runs all the complicated calculations and solutions on our powerful online servers - placing none of the extreme strain that traditional software can have on your computer.

A better ROI

Companies with cloud computing programs generally have much lower overheads than traditional companies - which means cloud companies don't have to charge the incredibly high prices of traditional software. On top of this, there are generally installation costs or on-going maintenance fees associated with traditional software which can run well into the thousands of dollars.

Cloud computing leads to more flexible subscriptions and variety in usage of the software. Meaning, because of the lack of installation costs and time, companies can be the most efficient in purchasing seats or licenses, rather than overestimating the need.

OnShape is a cloud based CAD software that is breaking ground, here's how they are helping engineers gain a ROI over traditional software like SolidWorks. "**Onshape Professional will save you $16,900 (61%) in the first year, and $20,100 (37%) over the first three years.**"

About SkyCiv

SkyCiv is focused on building powerful, accurate and easy-to-use Structural analysis and design software, completely on the cloud. As a constantly evolving tech company, SkyCiv is committed to innovating and challenging existing workflows to save structural engineers time in their designs.

Since inception in 2015, SkyCiv has developed all of its software in house, by qualified structural and mechanical engineers with programming skills, to ensure the highest quality and accuracy of our software.

With users from 170 countries worldwide, SkyCiv is building structural engineering software for the future.

Wanna give SkyCiv a try? Sign up for a 14-day trial and see for yourself!

www.skyciv.com/free-trial

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