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CUSTOM ADDONS & 500+
PROJECTS SUCCESSFULLY.



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BDOOTDOORS

WEBSITE & HOST SETUP

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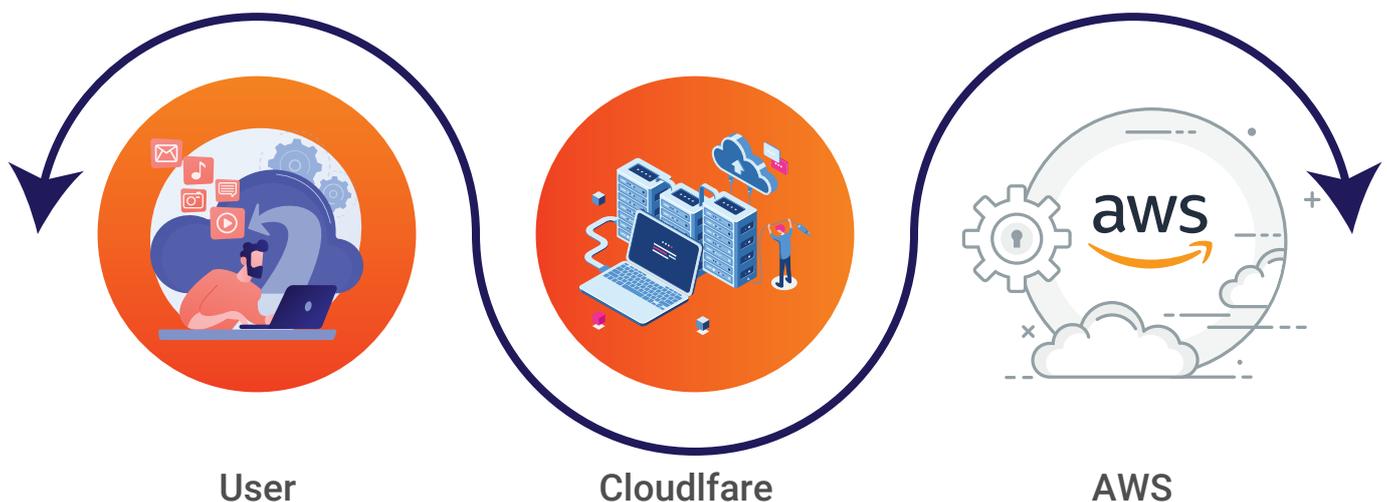
CLOUDFLARE



When an end user access any bdoutdoor's web page the request first goes to Cloudflare and we use this as central command & control center for most of the domain & server controls.

Cloudflare is quite unique and popular service, if used properly this can drastically decrease the resources consumption and increase the website's security. This is the exact case currently for BDOutdoors Network. Currently we're using following from Cloudflare services:

- ✓ DNS records
- ✓ HTTP Proxy
- ✓ Page Rules - Forcing HTTPs connection
- ✓ Flexible SSL - Using Cloudflare's provided free SSL
- ✓ Security - Securing our site from Threats & DDOS
- ✓ Cache - Caching results (serving more than 60% cached data)
- ✓ CDN interface for S3
 - ✓ wp-files.bdoutdoors.com
 - ✓ internal.bdoutdoors.com
 - ✓ xfddata.bdoutdoors.com
 - ✓ files.bdoutdoors.com



AWS



As we are using Amazon Web Services for serving our web traffic to optimize the website's speed, cost and stability we are using a combination of services to get best output possible.

EC2

INSTANCES

Instances are actual cloud machines that we use to serve our dynamic content. Dynamic content mostly includes scripting files and web app scripts. This is central and most important part of this infrastructure because that's where most of the serving to end user actually happens. We rely on more than 1 instance at a time to make sure our users are getting most reliable service possible.

Follow is the list of EC2 service sections those are being actively used in our infrastructure.

LOAD BALANCER

As we discussed above we have setup of multiple servers ready to serve to our end users. So with these multiple servers this is not possible for us to have single IP assigned in our DNS that serves our traffic. Also even if we have any way of getting that single IP, our instances are not permanent as we are getting them from Spot bidding and there is no guarantee that IP of new instances will always stay there for us.

So we have Load Balancer setup in our system that automatically adds available instance to list and serve the end user. Load balance is permanent and we use this IP to serve our traffic from DNS. Also this is where our unhealthy instances are identified and marked as out of service within 3 minutes of the incident.

SPOTFLEET

This EC2 service allow us to bid for different type of instances on cheapest possible price. Spot Instances are the very reason that make AWS so affordable and cheap. Previously we were using single Spot Instance Request, that allows to target single type of instance per request. Spotfleet is quite new and advance service which gives us a lot of flexibility over what kind of instances we want and it also got integrated AutoScaling option.

THE GOOD ABOUT SPOT INSTANCES

Spot instances are basically not used resources for AWS. AWS allows the automatic bidding process from where we

win and initialize the instance for our usage. There is as much as up to 70% of cost saving on actual price of that instance using this bidding mechanism.

THE BAD ABOUT SPOT INSTANCES

There is also a downside attached to spot instance request, as there is very aggressive bidding process involved and mostly automated the price range for these serves is very dynamic. We can be outbid quite easily based on the demand & supply formula set by Amazon. This also means that our active instances can go out of service and our automatic scripts have to place new bid for winning one back. Fortunately, we are using more than 1 instance at a time from multiple zones and different instance generations to make sure that there is always some server serving to the users. Also as soon as an instance goes down a new one is requested by our automated scripts to get instance within 3 minutes.

The problem is when an instance goes down we might have some data in recently terminated instance (uploaded by end users). By default applications like Wordpress & XenForo put their static file content to hard drives attached to the machines. In our case our hard drives can be terminated along with the instances as the service we target for this purpose are EBS within EC2 and we also attached our drive's life with our machines life.

TURNING THE BAD INTO GOOD

Our main applications WordPress & XenForo are dynamic applications, so we usually have a lot of user uploaded/created data. That means almost every EC2 instance comes to life has some unique user uploaded data into that machine. We have implemented a clever way of connecting both of our applications and EC2 instances to **AWS S3** services. You can read more about this service & how we use it in **S3** section below. This makes our files permanent and always available.

S3 STORAGE

This is basically very cheap and affordable static file hosting service by AWS. We simply upload all user uploaded content programmatically to S3 as soon as we get it. This makes those files permanent and even if the instance is terminated we always have our content placed in proper place and ready to serve. As a added benefit we have connected all our S3 buckets to Cloudflare's CDN interface that we discussed in very start of this document. This means that we're capable of service 100% of our data over the CDN and at fastest speed possible.

Currently we have following buckets to server our website content:

wp-files.bdoutdoors.com This bucket holds all data for wordpress that was suppose to go in wpcontent/ uploads directory

internal.bdoutdoors.com This has all the static files from xenforo those are supposed to be stored in internal directory

xfdata.bdoutdoors.com This got all the files and content from data directory of Xenforo

files.bdoutdoors.com We use this bucket to server manually uploaded content & files.

Not only this we also use S3 as central point where our ready to go database backups are stored. A bucket used for this purpose is named bd-db-backups.

GLACIER

This service has no active role in content serving or this is not interacting with end user. AWS Glacier is actually very cheap storage for long term. Its almost free for us to put data in it and they only charge for data retrieval so we're using this as backup for all S3 content so in case of something really worst we still have our data to recover our website. In simple words this is our Backup Vault for disaster recovery.

RDS (MYSQL)

As we have dynamic websites, we got databases to run them. RDS is being used to host our databases. We have currently 2 active database instances supporting our web infrastructure:

LIVEFORUM

This instance is hosting both databases wordpress & xenforo. Intially this instance was being used by forum only and wp was using its own independent instance but as we optimized our structure and database we were able to fit both databases into this single instance.

LIVENEWSLETTER

As we have currently 3 independent applications running:

- ✓ Sendy
- ✓ Old Newsletter
- ✓ Helpdesk

We're using this instance to host all those 3 databases.

ELASTICACHE

This service gives us Memcache based instances that both of our applications are using for dynamic caching. This saves us a lot of resources & cost!

ELASTICSEARCH

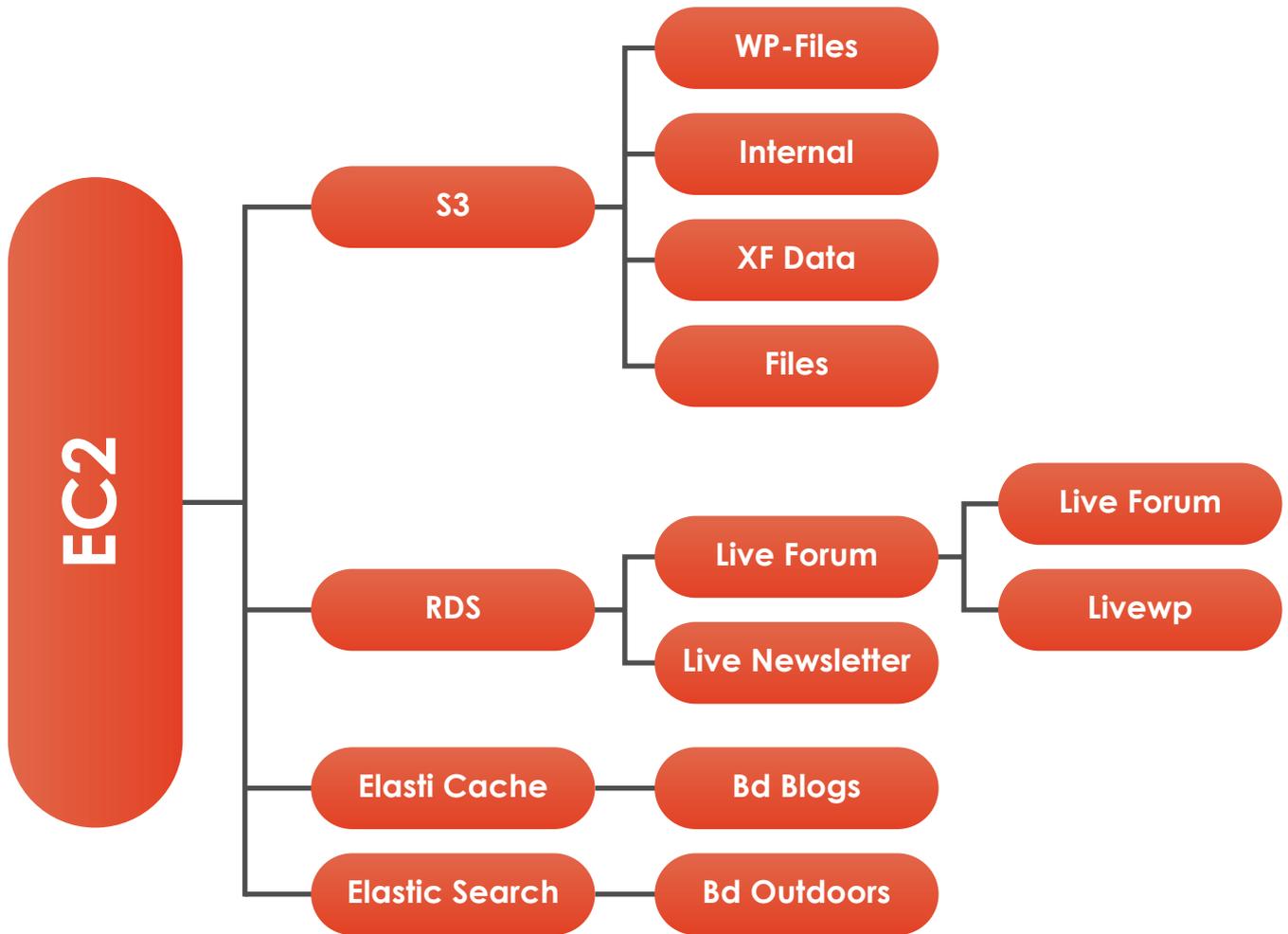
The main source or load of our traffic is on forum, so we use Elastic Search by Apache on XenForo to deliver the search results faster and easier. Only XenForo currently using this service and it is being used to serve all the search queries. This saves resources and also make sure our users are getting the most up to date results and shortest time possible.

SES (EMAILS)

In this whole dynamic site network and services, we always need to communicate with the end user. Weather its our newsletter emails we send using Sendy or simple XenForo notification telling user that there is a reply to our posted thread. SES enable us to deliver these emails efficiently and cheaply.

HOW IT LOOKS LIKE?

The overall or end picture of our AWS section for XF + WP looks lie below:



Thanks For Watching!

Contact us today and we will turn your ideas into successful projects.

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