# Investigating Integrations

# URStreamSight

Raymond Knorr, Avery Cameron, Noah Rowbotham

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# Investigating Integrations

## Status Page: (front end)

Status page provides easy notifications and status updates for services as well as analytics on uptime etc. You can group services, raise service events and notify users of outages.

| Subscription | FREE | Hobby | Startup | Business | Enterprise |
|---|---|---|---|---|---|
| **Price (/month)** | 0 | 29 | 99 | 399 | 1499 |
| **Subscribers** | 100 | 250 | 1000 | 5000 | 25000 |
| **Team members** | 2 | 5 | 10 | 25 | 50 |
| **Metrics** | 2 | 5 | 10 | 25 | 50 |
| **Notifications** | email | Email | Email/SMS/web | Email/SMS/web | Email/SMS/web |
| **Slack Notifications** | - | Yes | Yes | Yes | Yes |
| **Customization** | - | Basic | Custom CSS | Custom CSS/HTML/JS | Custom CSS/HTML/JS |
| **Domain** | - | Yes | Yes | Yes | Yes |
| **REST APIs** | Yest | Yes | Yes | Yes | Yes |
| **SSO with Atlassian** | | - | Yes | Yes | Yes |
| **Components** | 25 | Yes | Yes | Yes (w/ subscription) | Yes (w/ subscripti |
| **Yearly Price options** | | - | - | Yes | Yes |

The ***free version*** would probably not meet needs after more municipalities join on. As well, the team members are limited. We are only using four components so we would be able to display the status for all of the outlined pages.

The ***hobby version*** would provide status page updates by email only to 250 subscribers. People can still visit the page without subscribing but they would not receive the notifications. This step also includes 5 metrics instead of 2 which can outline uptime for each service as well as response time for the API or any other metrics such as request queue time, exception rate or custom metrics.

The **startup version** would provide the same as above but to 1000 subscribers and with 10 metrics. To display useful metrics, no more than 10 would likely be needed unless additional components are added to Statuspage. The notifications can be sent by sms or webhook notification as well.

After, the tiers become more expensive than they are worth, with the  primary difference being the number of subscribers. There is no additional cost expected for the different status pages for the API, Portal and Pipelines.

***For the design and maintenance of a similar system at $30/hour:***

Design time of the system would be used to identify useful features, and AWS services required. This would require hosting on AWS, a notification system and a method of updating status. This would be more customizable and possibly fit in better with the portal UI which is only fully customizable at the business and enterprise levels.

*Estimated Design Research Time: 5-10 hours ($150-300)*

Building the design would require setup of the AWS systems, and creation of API, event subscribers and listeners,

*Estimated Design Build Time: 20-60 hours ($600-1200)*

Maintenance of the system would include AWS service costs and include corrective, and adaptive maintenance. Initial maintenance might be high and then the system would need less developer input and be the service costs

*Estimate Maintenance cost: 3-5 hours per month ($90-150)*

*Total Estimated cost: $750-1500 + $90-150 / month*

This would require 850 months with conservative estimates for the service to be more expensive using the *startup* option. If the *hobby* option is viable, this becomes the better choice as even 1 hour of maintenance per month with no consideration for the operating costs would be more expensive. If there was only one hour of maintenance per month required, which is not expected, the startup option would be less economical after a year.

## OneSignal: (front end)

| Plan | Scenarios |
|------|-----------|
| Free<br>- *10000 web & unlimited mobile push subscribers*<br>- *1 in-app message at a time*<br>- 6 Audience segments, 10 data tags<br>- Unlimited API sends<br>- Targeted sending times (intelligent)<br>- A/B testing<br>- GDPR Compliant | This works for the smallest grouping, 5 users across 5 Organizations. It has a limit to one active message at a time which is the greatest drawback. You can split users into groups/audiences based on active time and other groups. |

| Growth $12/month (1000 subscribers) - $24/month for 5000<br>- 10 audience segments, 20 data tags<br>- Confirmed delivery<br>- List uploads<br>- Automated in-app messages<br>- Integrates with Mixpanel and other core integrations | This works for the 5 users scenario without the drawback of only one message at a time. It is customizable up to 100000 at $3/1000 subscribers. |
|---|---|
| Professional $99 (0 subs) - $114 (5000 subs)<br>- 20 audience segments, 100 data tags<br>- 100 automated workflows<br>- Notification data exports<br>- Advanced analytics | This works for the 5000 users scenario and contains better analytics to check how notifications have worked and engagement with them. |

The user can opt out of categories of notifications at every level of one signal and you can personalize notifications with data tags. There is also delivery of notifications based on when they are most likely to engage and with the Professional level, there is advanced notifications and custom outcome tracking. In-app messaging can be customized but it doesn't seem to mention a mailbox or storage of notifications. Emails and SMS messages are available with personalization each for $3/1000 email subscribers or phone numbers. (phone is free until June 1 as it is new). Overall, this product seems better suited to one off, in app notifications and user retention which might not be helpful on the municipality side.

***For the design and maintenance of a similar system at $30/hour:***

https://onesignal.com/blog/build-vs-buy-what-goes-into-building-a-push-notification-platform/

This is a good (biased) blog post on building or buying a push notification system. In general, if you are using Free or Growth, using OneSignal makes sense.

*Estimated Design Research Time: 5-10 hours ($150-300)*

Building the design would require setup of the AWS systems, and creation of API, event subscribers and listeners,

*Estimated Design Build Time: 40-160 hours ($1200-6400)*

Maintenance of the system would include AWS service costs and include corrective, and adaptive maintenance. Initial maintenance might be high and then the system would need less developer input and be the service costs

*Estimate Maintenance cost: 5-10 hours per month ($150-300)*

*Total Estimated cost: $1350-6700 base cost + $150-300/ month*

For the Professional  subscription at 5000 users, $114/month, the integration system would be better simply based on the maintenance cost. This is using conservative estimates as build time is more likely to be much higher, adding new features would be costly, maintenance would add up and if mobile was included adding new developers for that would

add to the cost. With no maintenance and low development time, it would pay for itself in a year but the likely cost would mean about 5 years if not more. Integrating with OneSignal would be worth the subscription cost

## MixPanel: (front end)

| Plan | Scenario |
|------|----------|
| Free<br> - 100K monthly tracked users<br> - Core reports<br> - Data dictionary<br> - Monitoring & alerts | See user actions, user growth and trends. This would work for the 5 users - 50 user easily and would provide an opportunity to test out the core reports and determine if the more advanced reports from growth would be helpful. Use 'Flows' to determine actions after key events to see where people get stuck. |
| Growth<br>$36/month or ($25/month annually) for 1K unique visitors<br>$107/month or $75/month annually for 5K<br> - Unlimited saved reports<br> - Impact reports<br> - Data modelling | This provides more users and more reporting tools. This would be able to track 5000 unique users, the number of organizations does not seem to be impacted. |

Mixpanel provides analytics on user interactions, user trends, user retention and the success of different changes. They aren't clear on the limitations of the Free plan but the Free plan might  include dashboards, alerts, data integration. This would provide an easy way to see where users struggle and how they are interacting. There might be a better service for viewing points where users struggle without the focus on user retention since they are employees. It can client side and server side metrics as well with integrations.

Using mixpanel would take some additional setup with server side tracking of events. The cost would be in generating and visualizing the reports. Since it appears that you add function calls to mixpanel for tracking a similar system would not be too costly but the Free plan would provide the visualization side easily.

## User Pilot: (front end)

User Pilot is a product offering three main services:
- Growth Insights: Understanding feature usage across different segments of the user journey. Tracking growth goals by user and account.
- Engagement Layer: Personalized in-product UI for user activation, feature engagement and customer retention.
- User Sentiment: In-product micro surveys to gather actionable user feedback insights. Understand how the users feel, and optimize the product experience accordingly.

**Pricing**

| Plan | Scenarios |
|------|-----------|
| Growth - $249 / month<br>- Up to 2500 Monthly Active Users<br>- All three of the main services offered.<br>- 20 Seats for our company members<br>- Up to 15 features for feature tagging | This would fit the bill for both of the smaller scenarios, 5 users and 50 users. The 2500 Monthly Active Users wouldn't allow the 5000 users in the third scenario. |
| Enterprise - $749 / month<br>- Up to 2500 Monthly Active Users<br>- Same as Growth<br>- Additionally has phone support, priority troubleshooting, dedicated customer success manager, technical implementation specialist, security auditing, and service level agreement. | This would do the same as the Growth plan when fit to our three scenarios. It simply gives more support and services for the company paying for it. |

There isn't a suitable plan available for a solution where we need 5000 users. There would have to be an exception made, or we would need to purchase two plans, and then we would only have a maximum 5000 users.

**For the design and implementation of a similar system at $30/hour:**

The services offered by User Pilot would probably be too advanced to effectively be developed in house. Especially the User Sentiment analysis, as we would have to hook up to a cloud Natural Language API to do the work for us. The cost for the Growth Plan for one year would be $2988, which is the equivalent of two and a half weeks of development time. There is no way a developer could develop this in two and a half weeks.

https://userpilot.com/pricing

# Twilio: (Customer Communication)

| Situation | Pricing |
|-----------|---------|
| 120 calls/day | $93.60/month or $1 123/year ($0.013/min) |
| 1 200 calls/day | $936/month or $11 232/year ($0.013/min) |
| 120 000 calls/day | $90 000/month or $1.08M/year ($0.0125/min - volume pricing) |

*Calculations based on avg. call length of 2 min*

**Additional pricing options can be negotiated for businesses with consistent usage**

**For the design and implementation of a similar system at $30/hour:**

This system would require research into integrating with VoIP or some other method of bridging software to telephony networks. Also need to source affordable and scalable VoIP plans and hardware to have available phone numbers and calling capacity.

*Estimated Design Research Time: 20 - 30 hours ($600 - $900)*

Implementation requires developing the API for linking to the virtual call service, setting up infrastructure for calling, and integrating into streamsight.

*Estimated Design Implementation Time:* 40 - 80 hours ($1200 - $2400)

Basic maintenance of the software and hardware would be required.

*Estimated Maintenance Time: 5 - 10 hours per month ($150 - $300) + recurring costs ~$150/month*

To support more calls/day further costs will be incurred to invest in hardware and improving efficiency to support high call volumes. Regular costs will increase as obtaining VoIP or other licenses/purchases of phone numbers increases.

*Estimated Cost to Scale (multiple $1000's for infrastructure + recurring costs upwards of ~$200/month + labor to improve efficiency)*

*Total Initial Cost: $1800 to $3300 in labor + infrastructure and VoIP service cost*

Since pricing is on a per minute basis, and is relatively low cost, integration is more favourable. While developing the API is relatively low cost, investing in and maintaining infrastructure and leasing phone numbers is costly.

Although, at larger call volumes 50 000+ calls/day, an in-house option could save some money.

Twilio offers custom pricing for clients who have consistent usage, this may be a possible avenue.

Another option is considering the Nexmo API which provides pricing at a per second level. Depending on call length this could save money.

*Customization Options:*

https://www.twilio.com/docs/voice/twiml/say/text-speech

Many voices available, including everything offered by Amazon Polly. Twilio just uses Text-to-Speech where you configure what, how, and when to say text based on TwiML (similar to XML). Every contaminant could be converted into a TwiML block and then spoken by the chosen voice.

| Plan | Situation |
|---|---|
| Essentials 40K: $14.95/month | Both 120/day and 1200/day options are covered in this plan. You save money by losing the Pro plan features. |
| Pro 100K: $89.95/month | Both 120/day and 1200/day are covered. You gain extra features such as dedicated IP, email validation, and user roles (control who can send what and to whom and a credit limit on sending) |

Neither plan supports 120 000 emails per day. Twilio may still support a client with such needs, but custom pricing must be negotiated. Custom pricing starts at 1.5M emails per month.

**Cost to build similar system:**

Amazon offers a Simple Email Service. If the application is hosted on an EC2 instance, then cost includes the EC2 operation fee as well as $0.10 per 1 000 emails after 62 000 emails per month.

If the emails originate from another software package it is $0.10 per 1 000 emails.

Cost would include 20 - 40 hours to develop the API ($600 - $1200) plus the cost of emails sent. Cost is negligible until 1 200 emails per day which would equate to $4.00 a month.

Scaled to 120 000 emails/day, email service would cost approx. $380 a month.

The above costs assume the application does not run on an EC2 instance.

Amazon also includes pricing for including attachments at $0.12 per GB of attachments.

Total Cost: $600 - $1200 + Maintenance 5 - 10 hours per month ($150 - $300) + $4.00 - $380 a month.