

Automating Maintenance Notifications

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Background

- Delivered via email
- Manually processed
- Automation can help
- Significant barriers to automated processing

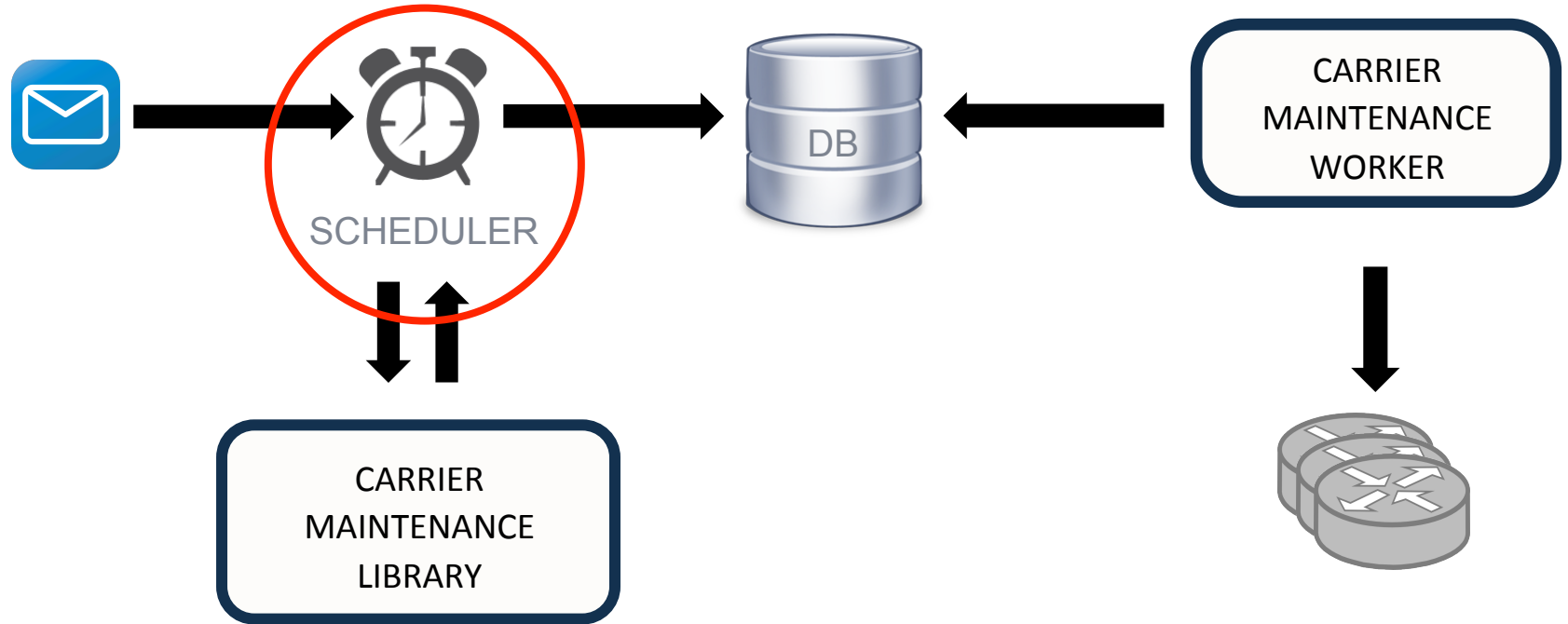
Agenda

- Facebook's maintenance notification automation
 - Parsing challenges
- Standard for formatting maintenance notifications
 - Examples
 - Next steps

What is Carrier Maintenance?

Automated maintenance processing tool with customizable actions

System workflow

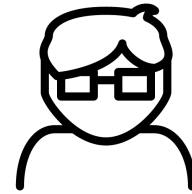


Scheduler features

- 30+ providers
- Schedule
- Event aggregation
- Reschedule
- Cancel
- Fuzzy matching
- Reject malformed requests

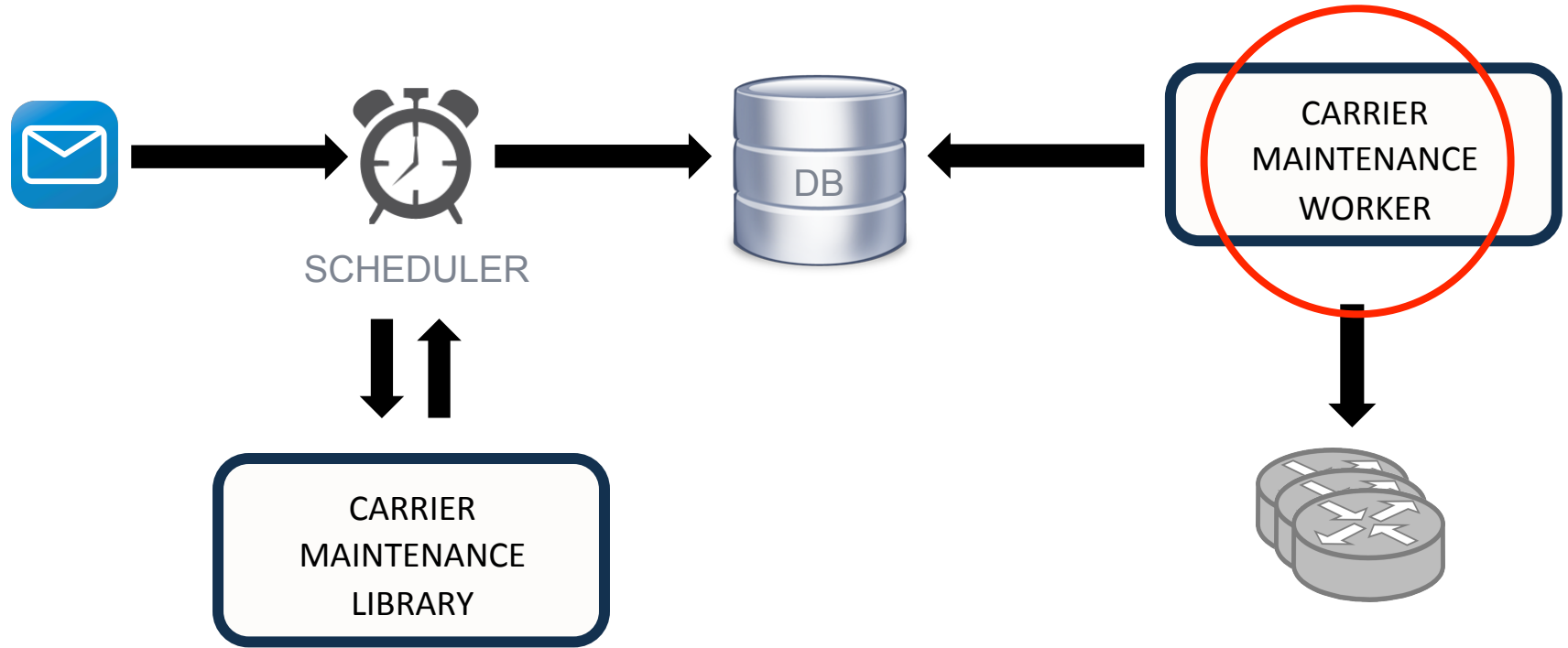
Scheduler stats

- 1000s of maints/month
- 10% new
- 40% related
- 50% not interesting



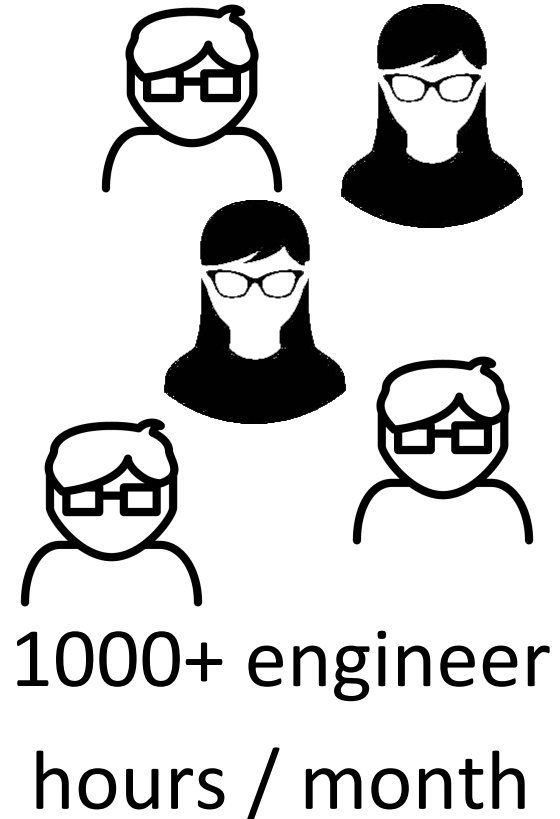
400+ engineer
hours / month

System workflow

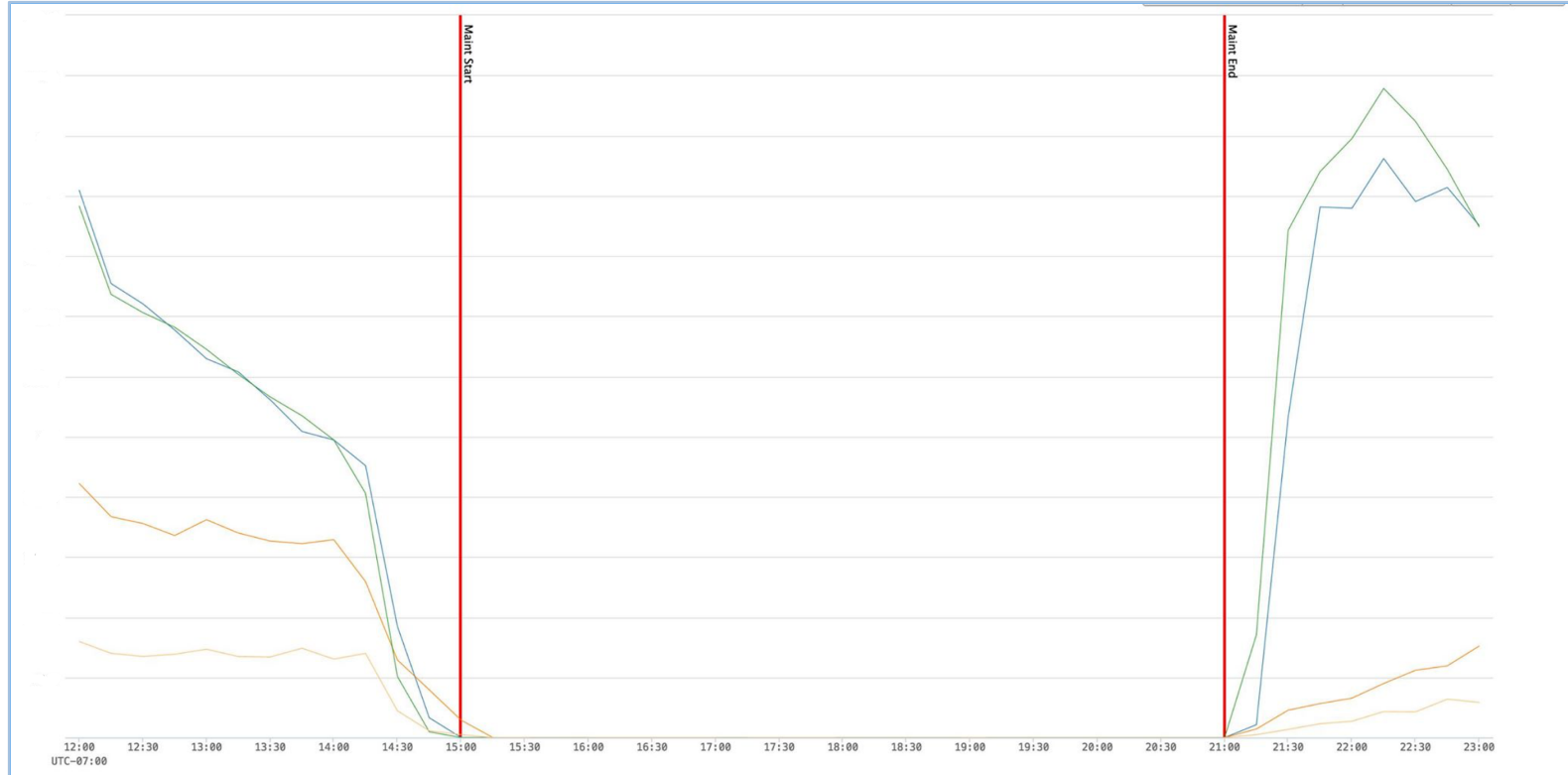


Worker features

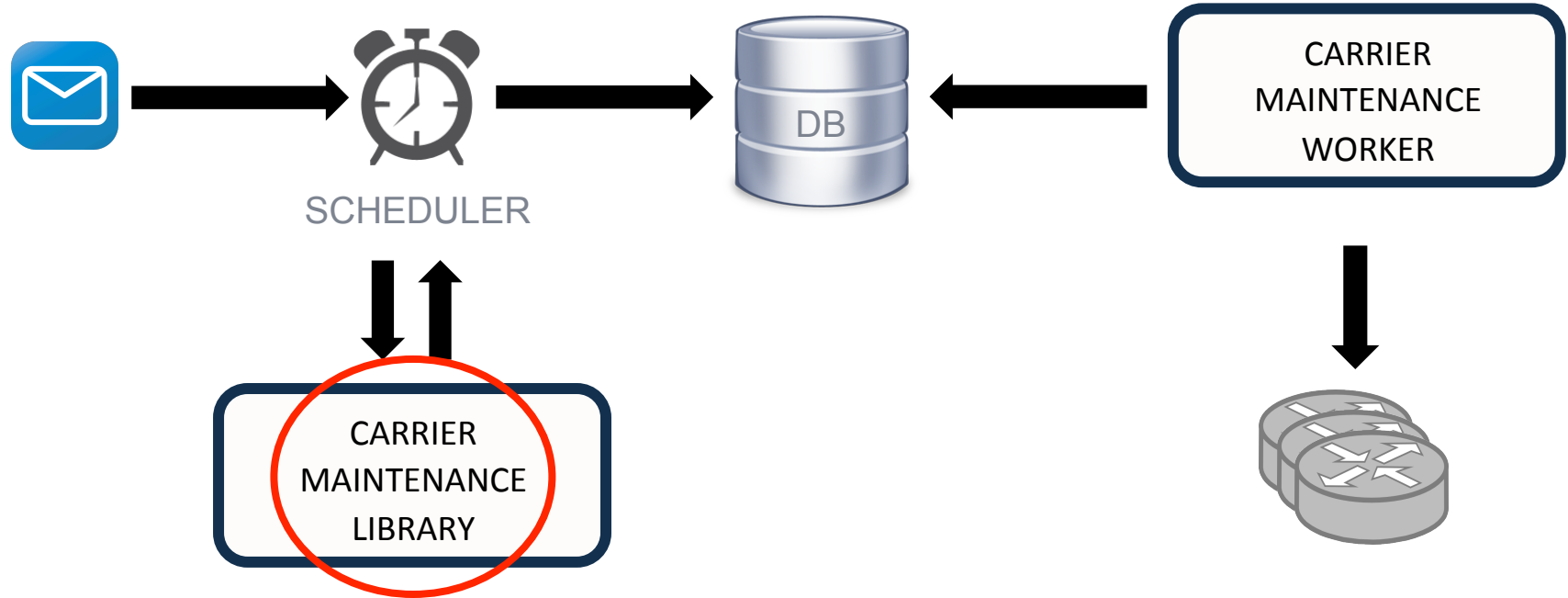
- Audits
- Capacity simulations
- Automatic cancellations
- Deprioritization of circuits
- Remediation
- Vendor escalation



Maintenance example



System workflow



Notification parsing example

ExampleVendor Maintenance Notification 5432432
Vendor Name Maintenance ID
Day 1 PRIMARY Start date/time: 04/29/2016 23:00 MDT Start date
Day 1 PRIMARY End date/time: 04/30/2016 04:00 MDT End date
Number of dates
Service affecting: YES Maintenance is service affecting
Circuits affected:
CD-54354
CD-54355 Circuits affected

Description:

ExampleVendor to systematically work their way from customer cage to the ExampleVendor cage ensuring all connections are cleaned and scoped and looking for any pinched fiber in the trays.

Contact:

Please contact the NOC at 877.645.xxxx or NOC@examplevendor.com with any questions/concerns.

Scheduler parsing challenges

- Parsing emails
- Unknown templates
- Changing templates
- Human errors
- Handcrafted maintenances
- Unknown file formats

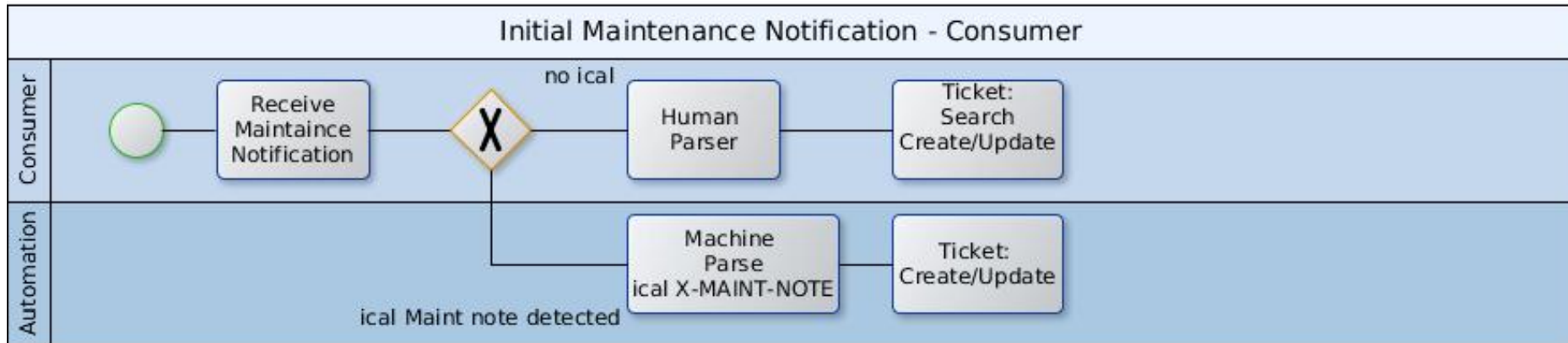
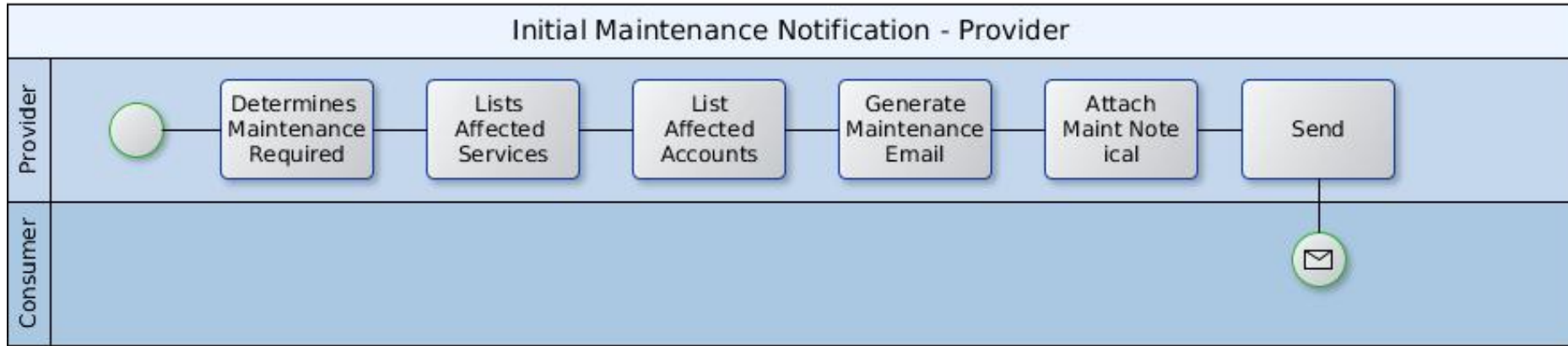
Maintenance notification standard

- Establish formatting conventions
- Mandatory and optional fields
- Extend iCal (RFC 5545)
- Draft standard
 - <https://cloud.box.com/v/DRAFT-MaintNote-BCOP>
- Python libraries

Example Workflow

- Provider notification
- Consumer parsing
 - Datestamp conversion
 - Ticket creation

Example Workflow



Example iCal

```
BEGIN:VCALENDAR
VERSION:2.0
PRODID:-//Maint Note//https://github.com/maint-notification/
BEGIN:VEVENT
SUMMARY:Maint Note Example
DTSTART;VALUE=DATE-TIME:20161012T080000Z
DTEND;VALUE=DATE-TIME:20161012T100000Z
DTSTAMP;VALUE=DATE-TIME:20161012T001000Z
UID:42
STATUS:CONFIRMED
SEQUENCE:2
X-MAINTNOTE-PROVIDER:example.com
X-MAINTNOTE-ACCOUNT:137.035999173
X-MAINTNOTE-MAINTENANCE-ID:WorkOrder-31415
X-MAINTNOTE-OBJECT-ID:acme-widgets-as-a-service
X-MAINTNOTE-IMPACT:NO-IMPACT
ORGANIZER;CN="Example NOC":mailto:noone@example.com
END:VEVENT
END:VCALENDAR
```

Identical to all updates

Orders updates

Uniquely identifies provider

Identifies account associated with service

Identifies maintenance

Identifies service under maintenance

Identifies impact of maintenance

Extension



Next steps

- Community input
- Trial adopters
- BCOP / RFC
- RFP boilerplate
- Advocate

Get involved

- All are welcome
 - Carriers
 - ISPs
 - IX operators
 - Coders
- Facebook group: Maintenance Notification BCOP
 - <https://www.facebook.com/groups/maintnote/>
- Git - <https://github.com/maint-notification/maint-notification>

Feedback / Questions?