



Open Build Service at Datto: The Good, The Bad, and The Ugly

Neal Gompa

2020



datto

Open Build Service at Datto

The Good, The Bad, and The Ugly

Neal Gompa

Who Am I?

- Professional technologist
- Linux user for over fifteen years
- Contributor and developer in Fedora, openSUSE, Mageia, and OpenMandriva Linux distributions
- Contributor to RPM, DNF, and various related projects
- DevOps Engineer at Datto, Inc.

All About Datto



Founded in 2007



23 offices around
the world



1,800+ employees
worldwide & growing



17,000+ managed
service provider partners



100% channel only

What We Offer

Datto products empower our community of Managed Service Provider partners with the right technology, business tools, and support to enable each and every one of their customers to succeed. It's an approach that has made us the world's leading innovator of MSP-delivered IT solutions.

Growth Products



Unified Continuity

Reliable data protection for full IT environment maximizing up time

- SIRIS
- ALTO
- Datto Cloud Continuity for PCs
- Datto File Protection
- NAS
- SaaS Application Protection
 - Office 365
 - Google Suite



Networking

Fully cloud managed networking solutions designed for MSPs

- Datto Networking WiFi
- Datto Networking Switches
- Datto Networking Edge Routers
- Datto Managed Power



File Sync & Share

Fully managed File Sync & Share solution

- Datto Workplace

Efficiency Products



Professional Services Automation (PSA)

SaaS platform for MSPs to manage their entire business



Remote Monitoring & Management (RMM)

Cloud-based Software for MSPs to manage SMB endpoints

Open Build Service at Datto

Open Build Service at Datto

- In service at Datto for over five years now
- Deployed using the official appliance provided on the website in an all-in-one configuration
- Runs in a VM using container build environments
- Targets Ubuntu for most of our production software
 - However, we build nearly all software with RPM spec files with [debuild](#)
 - Packages are native, (mostly) proper Debian packages
 - Built a library of RPM macros to port packages from Fedora/openSUSE with [debuild-macros](#)
- Built the Datto Linux Agent for over 50 distribution releases across the Red Hat/Fedora, Debian/Ubuntu, and SUSE families with OBS
- More info in [our blog post](#) and [openSUSE Virtual Summit talk](#)

Open Build Service at Datto: The Good

- Easy scaling of resources through OBS workers that detect the orchestrator and auto-connect
- Automatic reverse dependency rebuilding on package updates to ensure dependencies are linked correctly
- Easy to deploy and get started with using the official appliance provided on the website
- Lets us build packages natively for RPM and Debian distributions using RPM spec files (using [debbuild](#) with [debbuild-macros](#) for Debian/Ubuntu)

Open Build Service at Datto: The Bad

- OBS API is mostly undocumented and very difficult to interact with
 - Our tools wrap around osc, which itself doesn't have stable API
- Source services are unusable for Git-to-OBS workflow
 - There's no support for Git webhook data to be used to configure source services
- No support for evaluating module dependencies for build environments
 - Requires manual evaluation of dependencies to configure build environments
- No support for evaluating file dependencies properly for RPM builds
 - Requires manually determining mapping of file dependencies to packages
 - Technically, OBS *could* do this, but the dependency solver has this disabled

Open Build Service at Datto: The Ugly

- No information on scaling all parts of OBS
 - So many requests to our server that we see HTTP 503 to API a lot now
- OBS API tokens are not usable for all API actions
 - Required creating a special, carefully managed user for CI API usage
- No way for SCM source services to access authenticated servers
 - Worked around by pushing to OBS via CI rather than having OBS pull from Git
- Currently no support for publishing RPM repositories containing modules
 - Consuming modules works but producing them is not yet supported
- OBS version control system is very poor and unwanted
 - Does not maintain history across branching and merging
 - Mostly ignored in favor of Git as the source of truth for sources

2020



Thank You

datto

The world's leading provider of
MSP-delivered IT solutions

Blog - datto.engineering

Careers - datto.com/careers

GitHub - github.com/datto

GitLab - gitlab.com/datto

Questions?