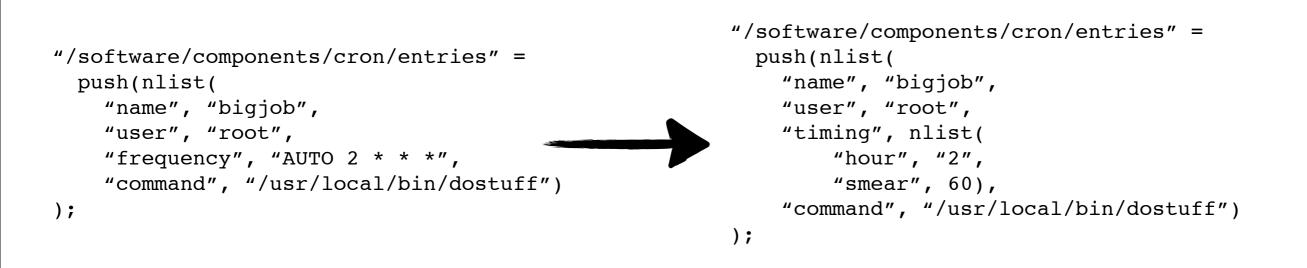# Component Updates

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What's been changing

- Provide use-cases for discussing development practices

- Decide on mainline versus branches.

- Education

ncm-cron: more smearing

```
"/software/components/cron/entries" =
  push(nlist(
    "name", "bigjob",
    "user", "root",
    "frequency", "AUTO 2 * * *",
    "command", "/usr/local/bin/dostuff")
);
```



```
"/software/components/cron/entries" =
  push(nlist(
    "name", "bigjob",
    "user", "root",
    "timing", nlist(
        "hour", "2",
        "smear", 60),
    "command", "/usr/local/bin/dostuff")
);
```

• timing takes precedence over frequency

• smearing can be up to a day

• hours/day/month/etc are strings, to allow for expressions.

ncm-download: retrieve URL

- Similar functionality to filecopy, but instead of content direct in the template, provide URL source for a file, download it using "curl".

- Can use "spnego" support within curl, using host kerberos principal, allowing authenticated (not encrypted) access to URLs.

- subclassable: prefix() method defines what configuration path to read. A good pattern to use for other components? Provides better "transaction"-like capabilities, and code re-use. Has a bug: ncm-ncd might not match exception!

```
"/software/components/download" = nlist(
  "server", "server1",
  "proxyhosts", list("proxy1", "proxy2"),
  "proto", "http",
);

"/software/components/download/files" =
  npush(escape("/etc/baz.conf"), nlist(
    "href", "/foo/bar/baz.conf",
    "perm", "0444",
    "owner", "root",
  )
);

"/software/components/download/files" =
  npush(escape("/etc/auth.conf"), nlist(
    "href", "http://server2/foo/bar/auth.conf",
    "perm", "0400",
    "owner", "root",
    "gssapi", true,
    "proxy", false,
  )
);
```

CCM: Local CCM DB format

- Specify "dbformat" within ccm.conf. Supports values of "GDBM_File", "DB_File", "CDB_File" (although values may be restricted based on installed RPMs).

  - When a CCM is being written (e.g. by ccm-fetch, or AII), the format should be specified. We specify in AII that CDB_File should be used.

  - Writes a ".fmt" file alongside the ".db" file. The CCM library reads the format to know what format the DB was encoded with. Therefore the APIs for read-only access to the library are unchanged - they just "know" what format to use.

- Downloads "if-modified-since" local disk version, ignoring the mtime in CDP notification messages.

- ccm-fetch uses the library (i.e. switched to ccm-fetch.new, an implementation now many years old, but never used!).

ncm-ncd, ncm-cdispd

- ncm-cdispd now creates files in /var/lib/ncm/ based on its current logic of deciding if a component needs to run. Files are named by component (e.g. "cron"). File is created even if component is not auto-dispatch. Making a component inactive will remove the file.

- ncm-ncd

  - creates files in /var/lib/ncm/ just before running a component (to track failed components). Files are named by component (e.g. "cron").

  - on success, deletes the file in /var/lib/ncm/.

  - on failure, writes the exception message into the file.

  - --status to display component's state, overall state

- want to do something similar with spma. What? How do others manage software?

spma, aii-ks

- spma: When multiple proxies are provided for spma

- aii-ks:

  - Use similar randomizing logic when picking proxies for bootstrap RPMs within the kickstart file. If the AII server processing the kickstart file is in the list of proxies, then use only that hostname (ourself).

  - Support a separate list of "installack" servers, not just a single URL. If the list is present, it is used, to allow for backwards compatibility. Each URL is requested in parallel.

  - Require and run nscd before we start the configuration.

AII: --notify, --firmware, use_fqdn

- "aii-shellfe --notify" automatically configures anything that needs configuring, based on profiles-info.xml (it's a server module). With "filter" to allow for AII server partitioning(*).

- caching wasn't working, now creates multi-level cache hierarchy consisting of domain name of host and hostname (e.g. devin1.ms.com/infra2.devin1.ms.com/profile.xml).

- global lock for when invoking aii-dhcp, but not for aii-shellfe itself: granular locks for specific client hosts. Bug report needed for perl-CAF...

- --firmware flag sets alternate pxe boot target (similar to install, boot or rescue). Points the boot at the relevant firmware installer based on information from the host profile. Schema change required.

- When use_fqdn specified, ONLY look for FQDN and don't partial match on hostnames to fix "igrid123.devin1.ms.com" vs "igrid123.devin2.ms.com". Might break some usage?

Many components: PAN v8

- Many components still have deprecated PAN syntax in their templates

    - divergence between templates included in component source, versus QWG distribution?

- Recently fixed components:

    - ncm-altlogrotate, ncm-cdp, ncm-chkconfig, ncm-dirperm, ncm-modprobe, ncm-nscd, ncm-ssh, ncm-sudo, ncm-symlink, ncm-sysconfig

Other New/Modified Software

- Core Components:

  - openvpn, autofs, nfs, xdk, tomcat, httpd, filecopy, fmonagent, network, useraccess, accounts, authconfig, syslogng, nagios, iptables, openvz, pakiti, xen, yum

- "plumbing":

  - perl-CAF, panc, pan-templates, ncm-cdispd, cdb, ccm, aii

- Notable unchanged:

  - "documentation"