



Asterisk 1.6 and your family

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Agenda

- Technical evaluation of Asterisk 1.6 new features
- Examples of differences in behavior from Asterisk 1.4
- Changes in release planning process



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You don't really want to hear that, though!





The Asterisk community
as a family

Family Member #1



Family Member #1



- Name: Boston
- Gender: Female
- Breed: Dog?
- Age: approximately 9 yrs
- Favorite Toy: whatever she found within the last 30 seconds
- Greatest Fear: houseflies



Dog Characteristics

- Always happy to see you
- Attention span of less than 60 seconds
- “Eat first, ask questions later”
- Complete lack of long-term memory
- Will enthusiastically notify you of the same event that occurred the previous 1, 5 or 100 days in the past



Family Members #2 and #3



Family Members #2 and #3



- Names: Samson and Katie
- Genders: Male and Female
- Breed: Cat
- Age: approximately 9 yrs and 6 yrs
- Favorite Toy: refuse to play with toys
- Greatest Fear: food and water not in the same place it was yesterday



Cat Characteristics

- Abhors change
- Would like life to improve, but only if it requires no work on their part and causes no inconvenience
- Happy to have little or no interaction with their humans except when **they** want it





So how is the Asterisk
community like a family?

Asterisk 1.2 users ('cats')

- Primarily wants a functional, reliable phone system
- Happy with the feature set of Asterisk 1.2
- Mostly concerned about bugs getting fixed quickly



Asterisk 1.4/1.6/+ users (*'dogs'*)

- Interested in the newest, fanciest and most exciting features
- Willing to try possible unstable or experimental features
- Still wants bugs fixed as fast as possible





How do we keep both parts of
the family happy?

In our house

- A 1 meter high fence separating 'cat world' from 'dog world'
- Attempt to keep the two sides as far apart as possible to avoid conflict



In our community

- Primarily served the 'cat' users throughout the 1.2 and 1.4 release cycles
- Emphasis on long-term release cycles without adding new features during the cycle
- Provide support for multiple release versions to ensure that users are not forced to upgrade
- However... all of this means the 'dog' users don't get new features and excitement except once per year (or even less often)
- In addition, this means that getting testing on new features is difficult and doesn't really provide adequate coverage



Asterisk 1.4 vs. Asterisk 1.6

- Asterisk 1.4 will continue to be the release series targeted at the 'cat' users... rapid bug fixes but no new features
- Asterisk 1.6 will use a new release process, where features will be added in each minor release (1.6.0 -> 1.6.1, 1.6.1 -> 1.6.2), but in small increments and without multiple core changes in one release
- At least three versions of Asterisk 1.6 will be maintained **at the same time**, which means bug fixes will be available for them, keeping users from being forced to upgrade
- The 'dog' users get excitement on a regular basis!





Asterisk 1.6 Improvements

Asterisk Manager Interface

- Support TLS and HTTPS
- Many headers renamed for consistency
- Direct support for JSON output for AJAX applications
- New 'Bridge' action to connect two existing channels
- Added many methods for configuration file management
- Version number of interface has been changed so application developers can know what features are available and which version of Asterisk is being used



Asterisk Dialplan

- Custom device state creation and queries
- 'Lock' support for dialplans which need to be able to run code in an exclusive method
- More functions to query hints, system information, manipulate Caller ID parameters
- Ability to generate custom DUNDi queries and parse results
- Ability to generate custom ENUM queries and parse results
- 'Bridge' application to connect a channel to any existing channel



SIP channel driver

- Improved NAT support and support for STUN
- Registrations to external servers can be stored in Realtime database
- Support for T.140 realtime text
- Support for T1 and B session timers
- Experimental TCP and TLS support



Voicemail system

- Message Waiting Indications now use generic event system, and mailbox polling has been eliminated
- As a result, MWI events can be distributed among multiple Asterisk servers, meaning it is now possible to have SIP endpoints registered to a different server than the one that holds their mailboxes
- Implemented fully-featured SMDI support for support of legacy PBX systems



Call Detail Records

- ODBC and PostgreSQL drivers now support 'adaptive' column mapping, making it easy to fill database columns with variables from the dialplan
- CDR variables can now be included in AMI events when cdr_manager module is used
- CDR variables can now be posted to SQLite3 databases



Miscellaneous

- New console channel driver that uses portaudio to work on many platforms (and also supports video)
- Jitterbuffer support in the local channel driver can be used for applications that need it
- SS7 (both ETSI and ANSI) support in PSTN channel driver
- Channel driver for Nortel i20xx series IP phones
- Dozens of new features in queue (ACD) application
- Support for Realtime in MeetMe conferencing, to easily support scheduled conferences
- Speech recognition support in AGI



Miscellaneous

- Resampling support for various audio sampling rates, so narrow-band (8KHz) and wide-band (16KHz) channels can be connected
- Integrated, template-driven phone provisioning module for any phone that can be provisioned over HTTP or HTTPS
- Realtime support for Web services, through the use of CURL to perform lookups and post data
- Realtime support for LDAP databases
- Support for use of LUA as a dialplan language





Planned improvements for Asterisk 1.6.1

A small sample

- Supports automatic gain control and denoising from Speex processing library
- Significant ENUM support enhancements
- Dynamic (pattern-based) hint creation
- Extensions can now 'return' to the dialplan to collect more digits for further processing
- Voicemail can now use an external entity for password verification
- Application to connect to the JACK audio processing library
- Channel spy application can now switch between 'spy', 'whisper' and 'barge' modes on the fly using DTMF



And some more

- SIP channel driver can now dynamically refresh DNS lookups for registrations to external servers
- SIP channel driver data structure changes to dramatically improve performance
- Directory application can now search on first name, last name or both





Summary

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- Asterisk 1.6 contains much new functionality, although nothing revolutionary
- Asterisk 1.6's core has been improved in many ways that will reduce the performance impact of new features being added and also the likelihood of difficult-to-find locking and data structure bugs
- Future releases of Asterisk 1.6 (1.6.1, 1.6.2, etc.) will get new functionality as well, in a controlled fashion
- Asterisk 1.6.0 is **not** recommended for production usage yet, but we would very much like users to try it, report problems and help test the product in more scenarios than the development can test themselves





Thank You!