

# Asterisk in the Call Center

Presented by

Matt Florell - President – eflo.net

Vance Dailey – IT Director –

Intermedi@ Marketing Solutions

Digium|Asterisk World 2007 \* Boston

October 30, 2007

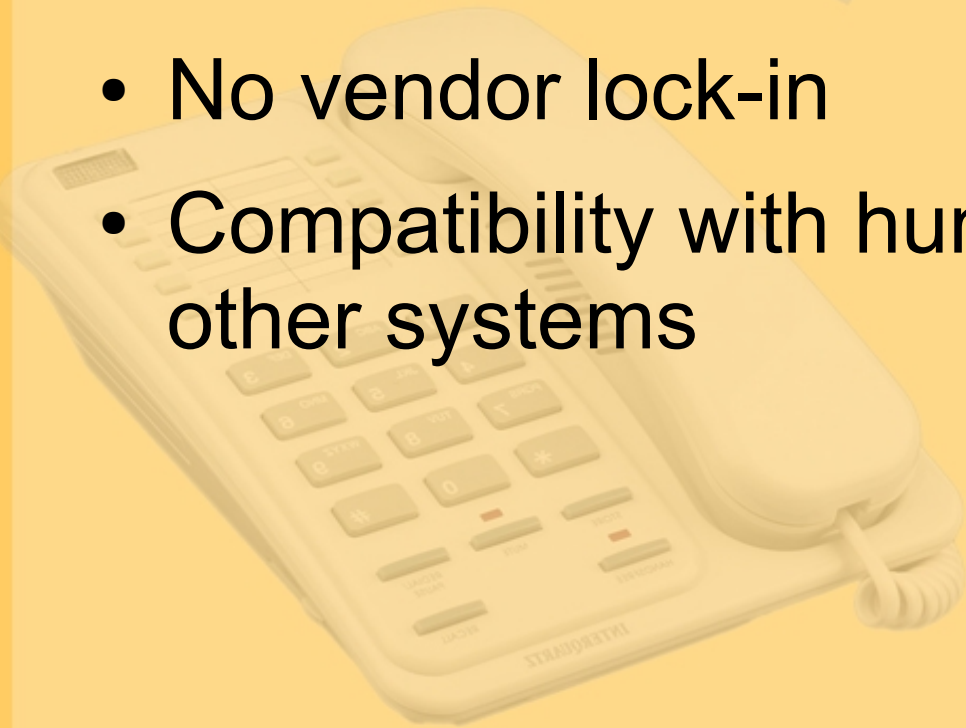
# Asterisk Use in the Call Center

- Inbound (ACD)
- Outbound (predictive dialing with agents)
- IVR
- Reminder call-backs
- Administrative/management use



# Asterisk Advantages

- Unparalleled flexibility
- No per-seat licensing costs
- Open-Source GPL license allows for in-house customization
- No vendor lock-in
- Compatibility with hundreds of phones and other systems

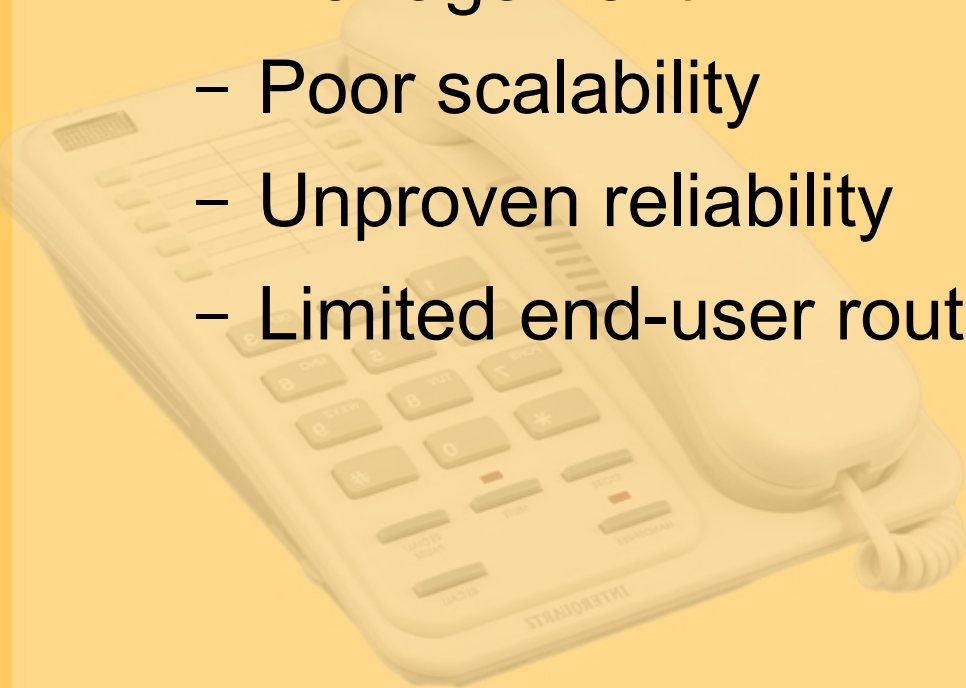


# Case Study: Intermedi@ Marketing Solutions

- In 2004, existing inbound proprietary system needed upgrade
- Upgrade was prohibitively expensive
- Moving to VOIP on proprietary platform was still very expensive and still contained vendor lock-in components
- Asterisk PBX 1.0 was recently released at the time and offered an extremely flexible system with no licensing costs

# 2005: Shortcomings with Asterisk

- In order to move to an Asterisk platform, 5 issues needed to be dealt with:
  - Lack of ACD reporting
  - No robust system for audio recording and management
  - Poor scalability
  - Unproven reliability
  - Limited end-user routine-configuration options



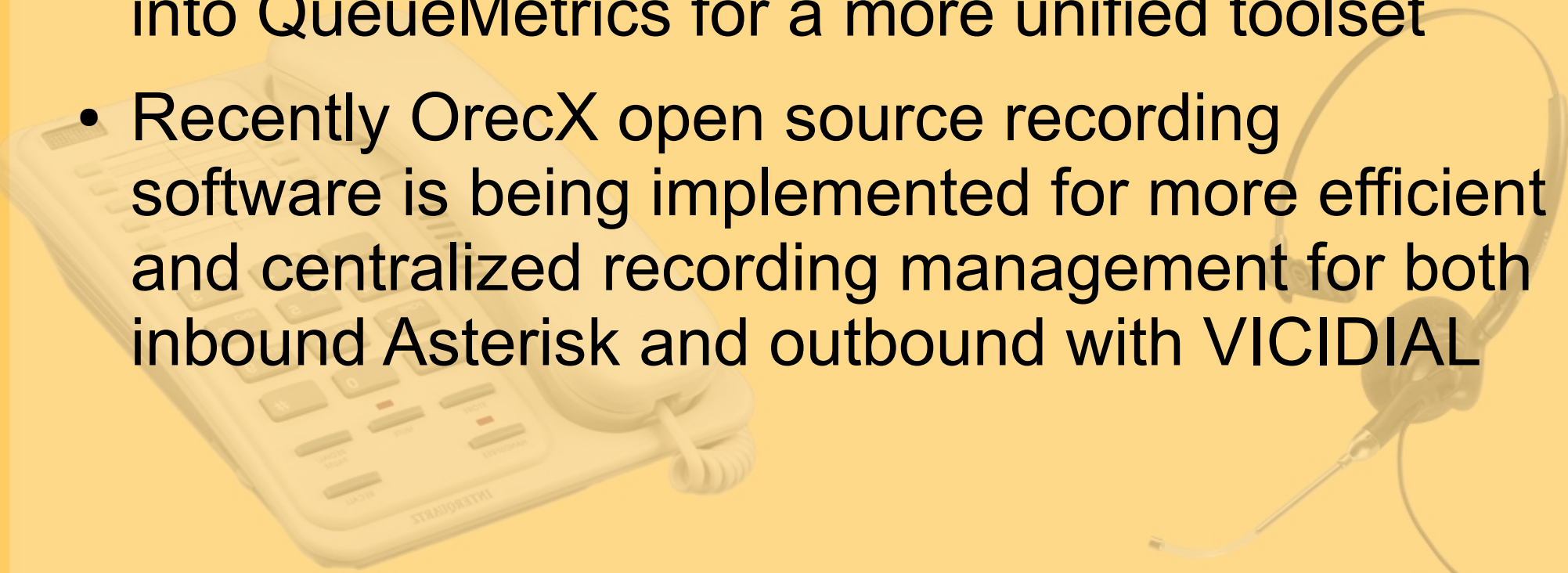
# Solution: Lack of Reporting for ACD

- After creating a detailed list of needs, project scope was quite large
- Several 3<sup>rd</sup> party utilities came to market
- The proprietary QueueMetrics solution best met the list of needs
- Loway Research was contracted to make enhancements to QueueMetrics to fulfill requirements



# Solution: Recording System

- Asterisk is capable of recording, but a robust recording management system was needed
- Built a recording management and live monitoring solution in-house and integrated it into QueueMetrics for a more unified toolset
- Recently OrecX open source recording software is being implemented for more efficient and centralized recording management for both inbound Asterisk and outbound with VICIDIAL



# Solution: Lack of Scalability

- Asterisk Queues do not work across servers
- Monolithic approach with one very large server was used to increase the size of the inbound call center.
- Using voice gateways, all SIP channels and the ULAW codec helped to reduce load
- Recording to RAM drive then transferring to archive server overcame 70-concurrent-recordings limit to go over 250 concurrent recordings

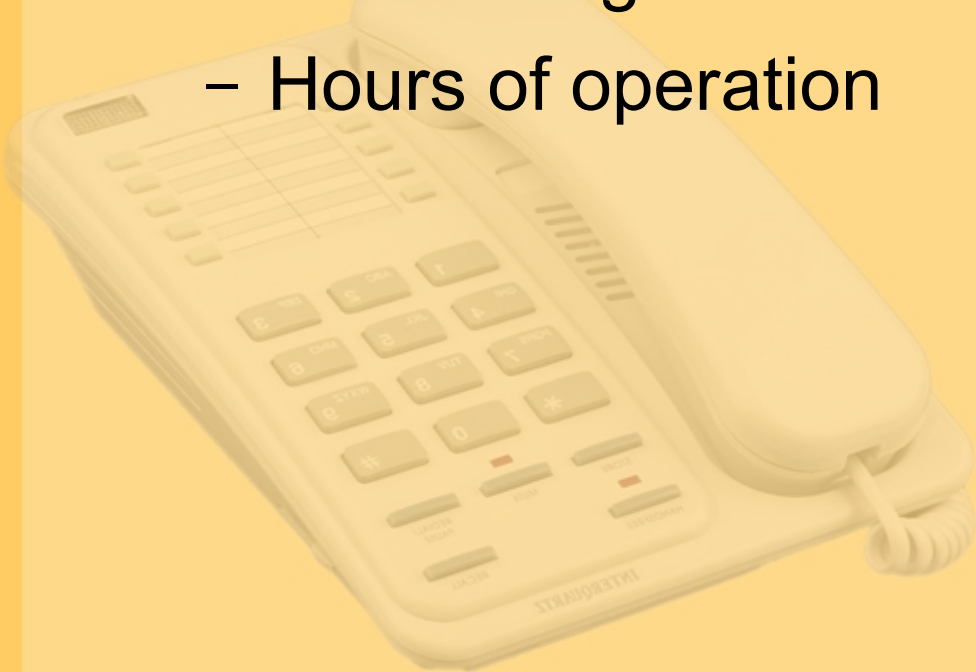


# Solution: Unproven Reliability

- Issue took longest to resolve
- ABE(Asterisk Business Edition) chosen for increased support and policy of not adding new and untested features
  - Needed special higher-channel-license from Digium
- Hardware reliability has not been a problem, but redundant servers are in place
- Plans for the future include carrier-level call bridging and auto fail-over

# Solution: Limited Configuration Tools

- Due to the high degree of customization needed, an in-house solution was written to handle several settings:
  - Queue configuration and settings
  - DNIS assignments
  - Hours of operation



# The Future

- Use of Asterisk has been a great success
- ACD reporting and recording/live monitoring tools are on par with top level proprietary offerings
- In-house configuration system allows most system changes to be made by non-technical call center staff
- Plans to allow for seamless at-home agents
- Migrating outbound dialing from existing proprietary solution to VICIDIAL

# Thank you!

**For more information, go to:**

[www.asterisk.org](http://www.asterisk.org)

[www.voip-info.org](http://www.voip-info.org)

[www.digium.com](http://www.digium.com)

[www.eflo.net](http://www.eflo.net)

[www.orecx.com](http://www.orecx.com)

[queuemetrics.loway.it](http://queuemetrics.loway.it)

