

# Customer Debrief

## Shared Services Email Major Incidents March thru June

August 7, 2013



# Agenda

- June Incident
- Root Cause Analysis
- Other Incidents
- Follow Up
- Q & A



# June Incident

- Began Friday, June 7 beginning approximately 8:40 AM
- Impacted Shared Services Email – typical reports were slow email, Outlook issues, email unavailable
- Determined root cause on June 11 through CTS and vendor analysis
- Mitigated issue on Tuesday June 11 at approximately 8 PM



# Root Cause Analysis

- A CTS customer with several thousand mailboxes has been “NAT’ing” their site behind a single IP address since the beginning of the shared email service.
- “NAT’ing” causes the Load Balancer to send all mailboxes from this one IP address to the same Client Access Server (CAS).
- The CAS makes calls to Active Directory for directory services. The relationship between a CAS and an Active Directory Domain Controller/Global Catalog (DC/GC) is a persistent session (sticky).



# Root Cause Analysis, cont'd

- The effect was an out of balance environment.
- Normal load on the CAS/GC relationship is 9,000 to 12,000 sessions. (Note: One mailbox can open multiple sessions.)
- In this case, the load spiked to as high as 20,000 sessions.
- This caused queuing and delay as the CAS requested services from the GC.
- Solution: Change the IP NAT'ing to span multiple IP addresses thereby allowing the Load Balancer to balance the load.



# Root Cause Analysis, cont'd

- CTS notified the customer agency and began a plan to spread their agency mailbox load across multiple IP's.
- This agency was fully cooperative and implemented a large change within a week's time.
- Agency change was complete on June 21.
- CTS mitigation was removed.
- Normal operations resumed on Monday, June 24.



# Other Incidents

- Monday March 25
  - Email connectivity; rebooted CAS server
- Monday April 22
  - Slow email; no cause found
- Tuesday May 28 (Monday was Memorial Day)
  - Email connectivity; no cause found



# Other Incidents

- In each case the previous Sunday was “Patch Sunday.”
- On Patch Sunday the CAS servers are cleared out, patched, and rebooted.
- Therefore, on the following Monday as Customers came back to work the Load Balancer began to redistribute the work load and the same NAT’ing issue occurred.
- In hindsight, these incidents were all related.



# Follow Up

- Shared Services Email is a shared environment requiring adherence to recommended practices.
- An accumulation of exceptions to these practices can have a detrimental effect on the community as a whole:
  - Cached vs. Online mode
  - Outlook best practices
  - Vault best practices
- CTS is reviewing exceptions and will work with customers to educate and realign towards recommended practices.



# Questions and Answers

