


When the SRM Honeymoon's over...

**How to ask the right questions about
backup reporting products**

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The software honeymoon cycle

1. ***We need some help!*** Let's see what's out there.
 2. It meets the specs, the eval worked: let's buy it!
 3. It's installed: we love it!
... a week passes ...
 4. Hmm... it can't do that? Oh well...
... two months pass ...
 5. Well, we don't really use it that much anymore...
... six months pass ...
 6. ***We need some help!***
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Useless Data, Useless Information

- Data is useless unless you can see it as *information*. This usually means putting in some kind of context:
 - Actual vs. standard, like NIC throughput vs. 1-Gbit theoretical capacity
 - In temporal context, like CPU utilization fluctuations during the day
 - Ranked with similar items, like which clients have the largest backups?
- But information is useless unless it's *actionable!*
 - Can you buy something to fix the problem?
 - Can you reconfigure something?
 - Can you even find the specific thing to work on?
- We try to give you reports and displays that let you take some sort of action, rather than just pretty pictures.

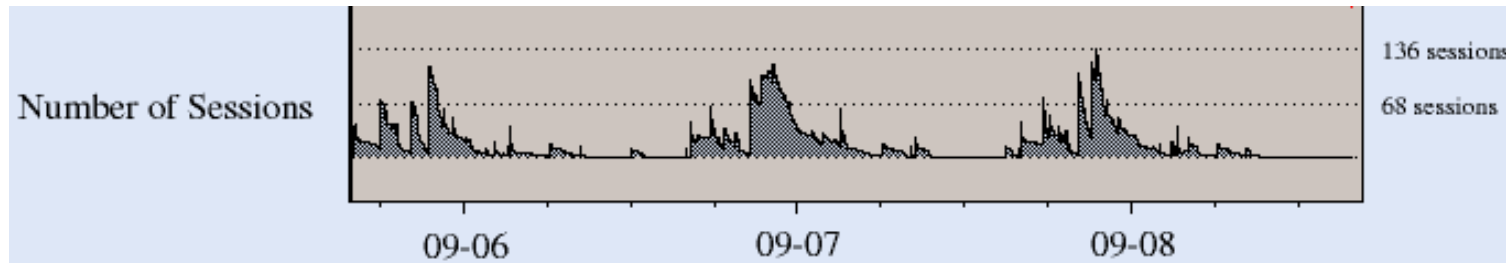
The right questions to ask

- From 50,000 feet, all vendors can check the boxes.
 - “At a minimum, an SRM product should include the following core features:
 - Alerts and reporting
 - Capacity management
 - Central management console
 - Chargeback
 - Content management
 - Device discovery
 - Forecasting “ (--Storage Magazine, Dec.2004)
- .. But the devil’s in the details!
- The following questions can help you separate the gold from the dross.

1. Data collection

“How does your product collect data?”

- Frequent queries damage server performance...
- ... but infrequent queries don't give enough detail!
- Log-file analysis gives excellent detail with minimal server performance hit.



- Also, direct server queries mean users see slow response times.
- Cacheing results in a local database gives excellent user response time.

2. Backup Success

“How does your product determine backup success?”

- Job-status reporting is inadequate
 - Job says “Failed”, but ops team did it manually
 - Job says “Succeeded”, but database agent failed later
 - Job is nonexistent if crontab or Autosys scheduled it
- Age (days since last backup) should be the criterion.
- Need to allow different ages per client (e.g. allow 7 days for a traveling laptop)
- Side benefit: finds trapped data in defunct filesystems!

3. Skipped-file handling

“How does your product show skipped files? “

- Be aware that some products may not even deal with this issue at all.
- If they do, ask if they groups files by extension, by directory, etc.
- A simple list of 700 skipped files is something you're probably going to ignore.
- Side benefit: detects new databases!

4. Predictions

“How does your product predict outages?”

- Preventing problems is better than reporting them!
- But predictions require historical data, so many reporting products are weak in this area
- Use 30-day trend *and* 5-day trend to catch explosive growth
- Interesting predictions:
 - Library slots all full
 - Library full (in TB)
 - Library busied out
 - Database full
 - Scratch tapes used up
 - Storage pool full
- It's nice if these are delivered out-of-the-box.

5. Alerts to TEC/ OpenView

“Does your product interface with SNMP?”

- First, does the storage server even support SNMP?
 - TSM has SNMP support built-in
 - NB/ NW require an expensive add-on
- Sensible alerting: If the storage server has 3,000 possible messages, which are worth alerting on? Each of the 3,000 messages should be analyzed – large and painful job!

6. Missed-backup prevention

“Can your product prevent missed backups?”

- An extension of the sensible-alerting concept
- Messages that mean “backup is failing” should go to operations team
- Raw log messages are usually too cryptic. Suggestions of what-to-do, and site-specific notes are essential to make this trick work.
- Prompt operator attention instantly boosts backup success rate!

7. Knowledge base

“Does your product enable knowledge sharing between various members of my team?”

- We're all trying to off-load work:
 - ↓ Senior administrators
 - ↓ Junior administrators
 - ↓ Operators
 - Software
- A miniature document tied to each error message has proven very helpful
- Blog-style interaction turns into best-practices doc
- Best-practices can be automated if worthwhile

8. End-user access

“Does your product let my end user community look at reports?”

- Limit a give user’s view to certain assets
- Also limit view to certain reports
- Need user-group to node-group permissions to ease administration of reporting
- Flexible delivery methods boost acceptance:
 - Web-accessible reports
 - Reports sent by email
 - Excel or raw-data format available
- Customized reports to match what people are used to.

9. Chargeback

“Does your product offer a chargeback feature?”

- Must charge for storage ***and*** data-transferred
- Must allow different rates for the above
- Should allow different rates for different media types
- What if you add a client node in the middle of the month?
- What if you have one client hosting 4 applications?
- Does it offer quotas to discourage excessive use?
- Does it interface to your accounting system?

10. Compliance: internal

“Does your product help me with SLA compliance issues? “

- Does it show backup success rate?
- Does it include within-window as a success criterion?
- Does it deal with clients installed mid-month?
- Does it show minimum-to-meet?
- Does it show which clients consistently have problems?
- Does it show unregistered nodes?
- Does it allow reconciliation?

11. Compliance: Sarbanes-Oxley

“Does your product help me with Sarbanes-Oxley compliance? “

- Backup-success rate and other SLA issues are often a part of SOX compliance, but by no means all.
- Every organization is different
- SOX auditors will usually ask two things:
 - “Show me what tapes this client is backed up on”
 - “Show me what files are on tape X”
- Screens that help auditors do this without the storage administrators attention are great timesavers!