

## F5 Acopia Solutions Note

### Highlights

- Manage storage growth effectively
- Reduce costs by seamlessly moving less business critical data to more cost effective storage
- Free up premium Tier 1 storage capacity
- Shrink backup windows and recovery times
- Lower backup infrastructure and backup media costs
- Free up IT staff resources
- Rapid return on investment (ROI)
- Provide freedom of choice in selecting storage vendors and platforms for appropriate storage tiers

## Automated Storage Tiering with F5® Acopia®

In response to rapid data growth and rising storage management costs, many enterprises are seeking to implement some type of tiered storage, or Information Lifecycle Management (ILM), strategy. Some organizations are interested in augmenting their high-end, high-cost storage with more cost-effective storage technologies in order to realize the cost savings that result from moving non-critical business data to lower-cost storage alternatives. Other organizations want to reduce backup times and lower backup infrastructure costs by reducing the amount of static data that is backed up on a regular basis.

### Business Drivers for Tiered Storage

Managing storage growth is the top storage-related challenge facing IT organizations today. Companies are generating content at a rapid rate, and retaining content for longer periods of time, stressing storage environments.

- **Massive Storage Growth**—Many enterprises are experiencing massive growth in file-based storage resources, often 50-70 percent annually. This is the equivalent of doubling in size every 18-24 months, which leads to significant management pain.
- **Business Value versus Storage Cost**—With the current growth rate for storage, companies can no longer afford to keep purchasing more of the same high-cost storage year after year. However, moving “non-critical” business data off of expensive storage onto lower-cost alternatives is a disruptive manual process that requires downtime and significant IT staff resources.
- **Backup Times and Backup Costs**—With the massive growth in file data and the daily redundant backup of older data, backup times are exceeding SLAs (Service Level Agreements) and backup infrastructure and media costs are escalating.

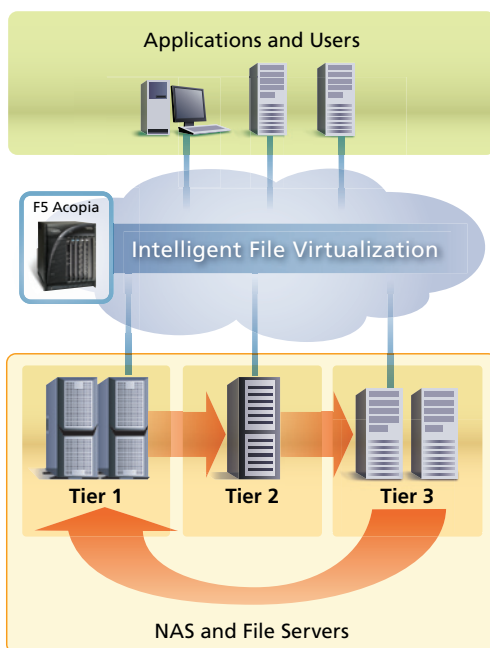
### Matching Business Value to Cost of Storage

F5 Acopia intelligent file virtualization devices automate the placement and movement of data between different tiers (or classes) of storage, with each tier potentially comprising devices from multiple vendors. Acopia devices give enterprises the ability to automatically move individual files based on flexible criteria, such as age or type, without causing downtime to users. The movement of data between tiers takes place seamlessly, without leaving problematic stubs or pointers behind.

Acopia devices are unique in their real-time policy enforcement capability. For example, if a policy on an Acopia device dictates that a file of a certain type be placed on a specific storage device, it happens immediately. This real-time capability also enables Acopia devices to more efficiently manage the lifecycle of data over time. For example, if a particular file that has been moved from Tier 1 to Tier 2 because it has not changed in a given period, it can be automatically moved back to Tier 1 when future changes occur.

With Acopia intelligent file virtualization, enterprises can better use their most expensive storage tier and reduce costs with additional lower-cost storage. In addition, by moving data that is not changing off of Tier 1, organizations can dramatically reduce the amount of data that needs to be regularly backed up. This reduces backup and recovery windows, as well as backup infrastructure costs.

Automated Storage Tiering with F5 Acopia



### Return on Investment

F5 Acopia products virtualize existing file storage resources for dramatically reduced storage costs, improved resource utilization, and simplified storage administration. As expected, there are normally significant capital and operational expense savings associated with the use of Acopia.

### Tiered Storage

Acopia solutions enable storage managers to deploy tiers of file storage with adaptive policies that match the business value of data with the cost of storage. Customers can automatically and transparently migrate non-critical business data off of expensive storage resources to lower cost alternatives. For instance, a customer could decide to move all email archive files, or all files that have not changed in the last six months (usually the majority of the data), from Tier 1 to Tier 2. As the example to the right shows, this can result in dramatic immediate and recurring long-term savings.

### Tiered Storage-Enabled Backup Savings

Customers that deploy tiered storage environments can create different backup policies for the primary and secondary storage tiers, which can result in further savings. Files that have not changed in months do not need to be continually backed up. For instance, if files that have not changed in six months are moved out of the primary backup data set on Tier 1 to Tier 2, Tier 1 can still be backed up regularly (for example, daily incremental and weekly full backups), but Tier 2 can now be backed up much less frequently (weekly, monthly, and so on). As the example to the right shows, not only does this simplify backup processes and reduce media costs, but it also dramatically improves backup windows.



### CapEx Savings from Efficient Tiering

#### Assumptions:

- 10 TB NAS environment
- 80% of data (8 TB, or 8000 GB) moved to Tier 2
- Cost of storage: Tier 1—\$20/GB; Tier 2—\$10/GB  
8000 GB \* \$10 = **\$80,000 immediate CapEx savings**

#### Assumptions:

- 2 TB new storage purchased each year
- Efficient storage tiering requires that 80% (600 GB) of new storage can be Tier 2  
1600 GB \* \$10 = **\$16,000 recurring CapEx savings**

### OpEx Savings from Backup Optimization

#### Assumptions:

- 10 TB NAS environment
- 80% of data (8 TB, or 8000 GB) moved to Tier 2
- Weekly full backup
- Cost of tape: \$.3/GB  
8000 GB \* \$.3/GB = \$2400  
\$2400 \* 52 = **\$124,800 recurring OpEx savings**

#### Assumptions

- 10 TB NAS environment
- 80% of data (8 TB, or 8000 GB) moved to Tier 2
- 4 tape drives
- 30 MB/s tape speed  
10000 GB/(4 \* 30 MB/s) = **23.1 hr old full window**  
2000 GB/(4 \* 30 MB/s) = **4.6 hr new full window**  
23.1 hr–4.6 hr = **18.5 hr reduction in full window**



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