Optimizing Partnerships and Integration — The Open API of Network Appliance's Manage ONTAP

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Management Summary

It is no longer possible to "own" a market single-handedly, market-share statistics notwithstanding. **Partnering is crucial to producing a complete, flexible *and buyable* offering.** There is no patience – no time, and no staff - to deal with unmanageable technology. *Playing well with others* is therefore the ante that allows vendors to be part of enterprise IT acquisition decisions. **For the aggregated technology to be truly effective, the cooperation between components must involve a good deal of functional intimacy.** We're not talking romantic entanglements here – we're talking *Application Programming Interfaces*, or APIs. They permit effective use of a product's functionality.

A marionette is a good analogy. The API is the *points of attachment* for the strings. More points of attachment (a richer API) on a well-articulated marionette gives greater manageability and a more specialized performance. The *hand* by which the marionette is controlled (i.e., the application) may have many crossbars to articulate joints and control accessories (think *Oracle*)– which will be useless, if the only point of attachment to the marionette is the head.

The first generation of APIs for storage hardware and software were of limited functionality, as no vendor wanted to lose control over their own intellectual property. As a result, it was still a lot of work to get seemingly congruent parts to work together. Open standards, like *SNMP*, *XML*, and, for storage, *SMIS*, address the problem by providing a more neutral set of integration standards. **Today, enterprises are looking to coordinate if not consolidate their applications, and there are many relationships to be coordinated.** Scripting and Web Services, like marionette strings, can accomplish this, but **the quality of APIs will still govern what is possible**.

So what does this have to do with storage hardware, formerly known as a peripheral? Data-storage-the-peripheral was a mere shelf, like its physical counterpart, where data was placed. Over time, it has developed many capabilities – like the articulated joints of a marionette. Data should be reasonably handy, (with appropriate access time), so we have storage tiers. It should be sized to its contents, so we have zoning and LUN configuration. It should be protected, so we have replication and virus protection. With time and staff at a premium, many enterprises want these data services automated and coordinated so that the data is most available to its users. **This all calls for a richly functional API to empower the strings of integration.**

Network Appliance's third generation API is fully open and free in its basic (no services) incarnation. This is important for more than just developers. For more details, read on.

A Short History of Grudging Integration

Just a few years ago, hardware vendors each had their own applications for their target segments and markets. These silos were well regarded as fault isolation mechanisms and ownership symbols, and products respected these boundaries. Integration within silos was hard. Integration between silos was best avoided.

However, enterprise customers have always integrated information about their operations, and needed to do so electronically. Frameworks using open protocols like SNMP came to market, to pull information together from diverse applications. This did not destroy the silos.

Then came a customer demand to share files and data among co-workers and value chain participants. The use of replicated data, though cumbersome, postponed the need for application integration until the demand for real-time data forced the issue again. Enterprise Application Integration[1] (EAI) and Web Services[2], address this need. The effectiveness of this approach depends on the functionalities exposed, usually through APIs, for evocation by Web Services or by scripts.

Recent budgetary constraints, and other approaches to fault isolation and security, have induced many enterprises to demolish the silos and consolidate their IT assets on networks as assignable pools of capacity. But **the coexistence of networked assets does not insure functionality. You still need the strings and the points of attachment.**

The ability of IT to integrate functionality grows more important as enterprises struggle to control costs and to react to the market faster and better. Even if the pervasiveness of Microsoft should take over the world, there will be a need to integrate, if not the *other*, then the *new* (applications or devices). Optimized, tunable functionality is always important to enterprise customers. They want to work with marion-

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[1] Which involves scripting

[2] Which use XML and its variants to build standardized, modular remote procedure calls

ettes, not just bevies of unarticulated blobs.

Network Appliance Strategy

Network Appliance, unlike some other storage vendors, does not seek to manage other people's storage. It does not seek to own its universe. **NetApp is working, instead, to make its own storage more richly functional by integrating third party applications, and more richly manageable by integrating with system management frameworks, by exposing all of its functionality through its API.** The API is complex enough to split into five components:

- **Systems Management** - This allows NetApps products to be managed by systems management frameworks.

- **Block and File Management** - This API covers the management of LUNs and transport protocols like Fibre Channel and iSCSI.

- **Data Management** - Data services like replication, snapshot and vaulting are integrated through this API.

- **Quota and Resource Management** - This covers the accounting and planning functions of and IT environment, but it can grow to more. This is where file attribute analysis and other emerging capabilities will hook in. As data becomes more informational in nature (more searchable, more richly defined by attributes) it is also more vulnerable to misappropriation than when it was just chunks of binary bits. Network Appliance predicts that there will come a need for *active* Storage Resource Management (a.k.a*.,* File Blocking) to keep files secure. Encrypting everything, if the same system is used, is like using a single password.

- **Virtualization Management** - This allows automated provisioning to be integrated. It also will let filers in diverse locations to be managed as a single pool.

This rich functionality will make Network Appliance NAS products more useful in both centralized and distributed environments. IT administrators will find they make processes more tunable. Application developers will see

Network Appliance's API Partners

AppIQ	Creekpath	Legato	NuView	Storability	Tivoli
BMC	Fujitsu Softek	Network Associates	Precise/ WQuinn	Tek-Tools	Trend Micro
Computer Associates	HP	NTP Software	Sophos	Teracloud	Veritas

a delightfully well-articulated host for their software. **Overall, the rich API makes Network Appliance products great marionettes with which to work.**

The basic API (all five components) is free to all (even competitors). I t is available to developers as the *Manage ONTAP SDK* (software development kit). It is also available through the *Manage ONTAP Portal*. This portal is accessible with registration at the Network Appliance Website. What you can see at the portal, and what you get as support, will be greater if you have chosen to pay for one of the tiers of a premium relationship. For gold and platinum partners, there is a full test lab as well as an on-line *Simulate-on-Tap* testing environment. There is automated support, a phone hot line, and, as another alternative, full fledged engineering consulting. What you want will depend on your needs and directions.

- **Small independent software vendors** (ISVs)s, may need more engineering support.

- **Large ISVs** may want just the bare bones

- **Channel partners** selling integration services may want a test bed to hone various integration solutions

- **Hardware vendors**, who want to build solutions using Network Appliance NAS, may want to take advantage of the capabilities of a full support relationship to speed time to market.

- **Customers** who still do in-house customization may want help, or they may be dedicated do-it-yourselfers.

These are all groups Network appliance would like to cultivate. The more diverse the quality partnerships, the more attractive NetApp products, and the partner products, will be to a

wide variety of customers. Everybody wins.

This is a relatively new program. The API strategy is under a year old, and the first two API versions came during the first two quarters of 2003. That it has gained such traction with the partners listed above is a testament, not only to Network Appliance, but to the need for such an approach.

By releasing a completely open API, Network Appliance has opened a new path to network and application inter-functionality. It does not compete with Web Services but complements it – all for the good of the enterprises that use Network Appliance products. **It is a trickle-up revolution, and one long overdue.**

Conclusion

So, yes, the quality, structure and detail of an API are important to us all. It determines where and how well the product can be integrated into a larger solution.

Think about the long-term usefulness of the products you buy. Think about your need for the intangible of *forward compatibility.* Think about the IT partner ecosystems that underlie an enterprise's core business processes. **You may then want to rethink how you buy technology. NetApp sets a good and interesting example.**

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