SNIA / OFA Work Register
Version 1.1
Date: 3/2021

This Work Register is created between SNIA and the OFA to formally define the objectives, benefits, and deliverables of the alliance. The register helps all organizations coordinate efforts to achieve the stated goals and objectives.

Alliance Organizations

The Storage Networking Industry Association (SNIA), and the OpenFabrics Alliance (OFA).

SNIA

SNIA is an organization which develops and promotes standards, technologies, and educational services to empower the management of information in the storage domain.

The SNIA Scalable Storage Management (SSM) TWG defines the Swordfish specification that extends the Distributed Management Task Force (DMTF)'s Redfish specification to handle the management of storage equipment and storage services found in modern data-centers.

The SNIA Storage Management Initiative (SMI) promotes education of storage management concepts, and the adoption of storage management standards. The SM Lab program enables acceleration and adoption of storage management standards, and the CTP programs provide impartial, vendor-neutral validation that hardware or software conforms to the SNIA Swordfish™ or SMI-S standards.

The SNIA Networking Storage Forum (NSF) works to drive the broad adoption and awareness of storage networking solutions, promote networked storage solutions, relevant standards, and the implementation of these standards, highlight the value of storage networking to the industry and its customers, educate vendors, end users, and system integrators about storage systems, networking, and standards, and leverage SNIA groups and events to support SNIA's goal to advance storage and information technology.

OFA

Open Fabrics Alliance

The Open Fabrics Alliance (OFA) mission is to develop and promote software that enables maximum application efficiency by delivering wire-speed messaging, ultra-low latencies and maximum bandwidth directly to applications with minimal CPU overhead. It seeks to accelerate the development and adoption of advanced fabrics for the benefit of the advanced networks ecosystem. This is accomplished by: creating opportunities for collaboration among those who develop and deploy such fabrics, incubating and evolving vendor independent open source software for fabrics, and supporting and promoting the use of such fabrics technology software.

The OpenFabrics Management Framework Working Group (OFMFWG) is chartered to create an open-source, fabric agnostic management framework.

The OpenFabrics Interfaces Working Group (OFIWG) is committed to (1) developing, testing, and distributing and extensible, open source framework that provides access to high-performance fabric interfaces and services; and (2) extensible, open source interfaces aligned with ULP and application needs for high-performance fabric services.

The Fabric Software Development Platform Working Group (FSDPWG) supports a multi-vendor, multi-fabric cluster that is made available to OFA members for developing, testing, and validating networking software and hardware. It delivers on the OFA's mission to accelerate the development and adoption of advanced fabrics for the benefit of the advanced network ecosystems.

The Marketing Working Group (MWG) has the charter to promote the benefits of OFA and accelerate the adoption of existing and emerging advanced fabric technologies.

Objectives and Scope

New large-scale, computing designs are multi-node and linked together through high-speed networks. Over time, many different types of high-performance networking devices have arrived for usage by these modern coupled computing platforms. Fabric Management requirements are needed by these high-speed networks to deploy, secure, and maintain optimized networks. This Work Register defines two distinct, yet related, sets of technical activities; one focused on fabrics management, and one devoted to developing APIs for management and administration of remote network services or devices.

In addition to these two technical activities, the Work Register also defines a set of marketing and promotional activities intended to support the aforementioned technical activities.

Alliance Goals

This Work Register is aimed facilitating standards-based management of current and future high-performance fabrics and interface technologies and advancing capabilities for remote/shared access to advanced storage, distributed computation, and memory. The end goal is to establish network access to remote/shared resources as a 1st class citizen.

Adoption of these technologies at scale depends on

1. A common understanding of client workload behaviors and requirements for reliable and scalable access to dynamic remote resource.

2. Development of API suites to enable application developers and solutions providers to facilitate creation of application suites integrated with infrastructure management and resource orchestration and composition tools to fulfill workload requirements.

The role of SNIA is to describe the behaviors to be exhibited by a consumer of remote resources through expansion of the Redfish and Swordfish use-cases relevant to the

aforementioned client workload behaviors. The objective in partnering with the OFA OFMF is to enable the development of an extensible management framework and interface for fabrics enumeration, management, and provisioning of remote/shared resources. The joint effort will target specific use-cases to:

- enable more efficient access to high-performance fabric interfaces and services as part of a broader standards-based system and data-center management ecosystem.

- facilitate creation of families of network-agnostic APIs for remote administration and management of fabric-attached resources in concert with a broader standards-based data center management ecosystem will enable mechanisms for connecting consumers with resources.

This includes discovery, allocation, connection, and administration of remotely accessible resources, orchestration of producers and consumers of the resources.

Marketing and Education

The specific marketing and education areas of collaboration defined in this Work Register include the SNIA NSF, SMI, and CMSI with the OFA Marketing Working Group working to promote relevant technical content

Activities

The OpenFabrics Alliance is launching an effort to design and develop an open Fabric Management framework consisting of common APIs and methods to deliver security, provide route management, and maintain optimized performance. The new Fabric Management framework will utilize DMTF Redfish and Swordfish, and as a goal, provide orchestration usable by NVMe-oF.

SNIA Swordfish has developed a usage model for NVMe over Fabrics management starting with mockups to enhance the DMTF fabrics-management model for remote storage. The next step is to expand SNIA storage fabrics management to include:

- management for usage models beyond distributed storage (e.g., persistent memory, AI, …)

- expanded enumeration of fabrics resources for existing fabric technologies within Redfish and Swordfish

- process for supporting enumeration of emerging fabrics technologies

- development of APIs for orchestration of shared memory, computation, and storage resources to consumers

Each relevant use case should be described in a consisting of a plan or stimulus for concrete API development through:

1. The relevant TWG instituting a series of regular, cross-group engagements at a frequency to be determined by the chairs of the groups.

2. developing a new OFMFWG framework and APIs accordingly, subject to availability of volunteer resources

3. Collaboration between relevant TWG to enumerate further use cases and collaborate to describe each resulting use case, similarly to what NVMP TWG has done for the HA use case. It is expected that these white papers will drive a set of requirements for a resulting API, and that those requirements can be used to drive the development of one or more specific APIs.

Marketing Exchange
See Appendix A for specific event activities and marketing exchanges

Limitations

OFA and SNIA have differing policies for both how contributions are made, and governance of any outputs of the work. The collaboration must respect those policies.

Each organization's contributions are necessarily limited by the availability of volunteer resources.

OFIWG does not control the implementation of the API in any given provider.

Milestones / Dates

OFA/SNIA joint table of milestones:

Milestone/Deliverables	Timeframe
A joint enumeration of future use cases to be developed	1H 2021
Enumeration and roadmap for Swordfish enhancements and deliverables	1H 2021
Support for the collaboration at industry events such as the OFA Workshop, SNIA Storage Developer Conference, and other events to be identified.	ongoing
Extensions to the OFI API to support the HA use case	2021

Access
In support of the above activities the following apply:

SNIA: The following specifications will be shared upon request with OFA

SSM:

- Updates & Work in Progress Drafts of the specification produced by the Scalable Storage Management Technical Work Group (SSM TWG)
- Updates and work-in-progress drafts of schema, profiles, registries, and documentation supporting the Swordfish specifications

OFA: All OFA meetings, code bases, and collateral are open source. Existing code is dual licensed GPLv2 and BSD.

Work Register Review Date

The next review date is expected to be on or before April 2021.

Resources Identified / Points of Contact:

Primary Alliance Agreement Contacts:

SNIA:
- SNIA Technical Liaison to the OFA (ofaliaison@snia.org)
- SNIA Marketing Liaison to the OFA (ofaliaison-marketing@snia.org)

OFA:
- OFA Chair, Doug Ledford (dledford@redhat.com)
- OFA Vice Chair, Phil Cayton (phil.cayton@intel.com)
- OFA Executive Director, Treasurer, Jim Ryan (jimdryan@gmail.com)
- OFA Marketing Working Group Chair, Divya Kolar (divya.kolar@intel.com)

SNIA Document Approval

This document is an official SNIA alliance record after review and approval by the SNIA Board March 25, 2021.

OFA Document Approval

The document was approved by the OFA Board March 25, 2021.

Appendix A

Note: Alliance partner benefits and expectations may be adjusted for virtual events

Open Fabrics Alliance Workshops and Events

 SNIA to receive:

- Space to display SNIA provided tabletop sign and literature as appropriate

- Two complimentary conference program passes for face-to-face 2022 workshop

- Option for speaking opportunities as appropriate and if available with OFA Workshop Technical Planning Committee approval

- Option to host a Birds of a Feather program (BoF) based on workshop theme applicability and with OFA Workshop Technical Planning Committee approval

- SNIA Logo to be displayed as Industry Sponsor on presentation slides, website and in print

- SNIA logo featured in Sponsor section of the event onsite signage (where applicable)

 In return, the Open Fabrics Alliance will receive:

- Eblast to the SNIA database of 40K+ to promote Open Fabrics Alliance Workshops and Events and invite them to register

- Posting of the Open Fabrics Alliance Workshops and Events on the SNIA events page and in SNIA newsletter, SNIA Matters

Storage Developer Conference (If/when held in 2021)
Open Fabrics Alliance to Receive:
OFA logo displayed in Association Partner sponsorship category on event
websites and promotional materials where sponsorships are mentioned

- Two complimentary conference program passes

- OFA logo featured in Sponsor section of the event onsite signage

- Alliance Partner registration discount (if offered) for Open Fabrics Alliance active technical contributors to attend

- One table-top exhibit space at SDC

- Social media promotion of partnership by SNIA

- Option for speaking opportunities. Open Fabrics Alliance may submit an Open Fabrics Alliance track for SDC and SNIA may accept other talks with Open Fabrics Alliance content. The normal call for paper process is to be followed.

Selection of paper will be given preference if there is a good fit of the topic with the agenda.

- Option to host a Birds of a Feather program (BoF)

In return, SNIA will Receive:

- Write-up on Open Fabrics Alliance upcoming events webpage for SDC

- Email blast to Open Fabrics Alliance database (if applicable)

- Social media promotion of event

- Social media promotion of partnership by Open Fabrics Alliance

Storage Developer Conference India (If/when held in 2021)

Open Fabrics Alliance to Receive:

- OFA logo displayed in Association Partner sponsorship category on event websites and promotional materials where sponsorships are mentioned

- OFA logo featured in Sponsor section of the event onsite signage

- Social media promotion of partnership by SNIA

- Option for speaking opportunities. The Open Fabrics Alliance may submit Open Fabrics Alliance proposals for SDC. The normal call for paper process is to be followed. Selection of paper will be given preference if there is a good fit of the topic with the agenda.

- Option to host a Birds of a Feather program (BoF)

In return, SNIA will Receive:

- Write-up on Open Fabrics Alliance upcoming events webpage for SDC

- Email blast to Open Fabrics Alliance database (regional if applicable)

- Social media promotion of event

- Social media promotion of partnership by Open Fabrics Alliance

Storage Developer Conference EMEA (If/when held in 2021)

Open Fabrics Alliance to Receive:

- OFA logo displayed in Association Partner sponsorship category on event websites and promotional materials where sponsorships are mentioned

- OFA logo featured in Sponsor section of the event onsite signage

- Social media promotion of partnership by SNIA

- Option for speaking opportunities. Open Fabrics Alliance may submit Open Fabrics Alliance proposals for SDC. The normal call for paper process is to be

followed. Selection of paper will be given preference if there is a good fit of the topic with the agenda.

- Option to host a Birds of a Feather program (BoF). Note that this is currently a one-day event format, so a BoF may not be appropriate for the event.

In return, SNIA will Receive:

- Write-up on Open Fabrics Alliance upcoming events webpage for SDC

- Email blast to Open Fabrics Alliance database (regional if applicable) Social media promotion of event

- Social media promotion of partnership by Open Fabrics Alliance