

Firewall Issue Research Group

Document discussion

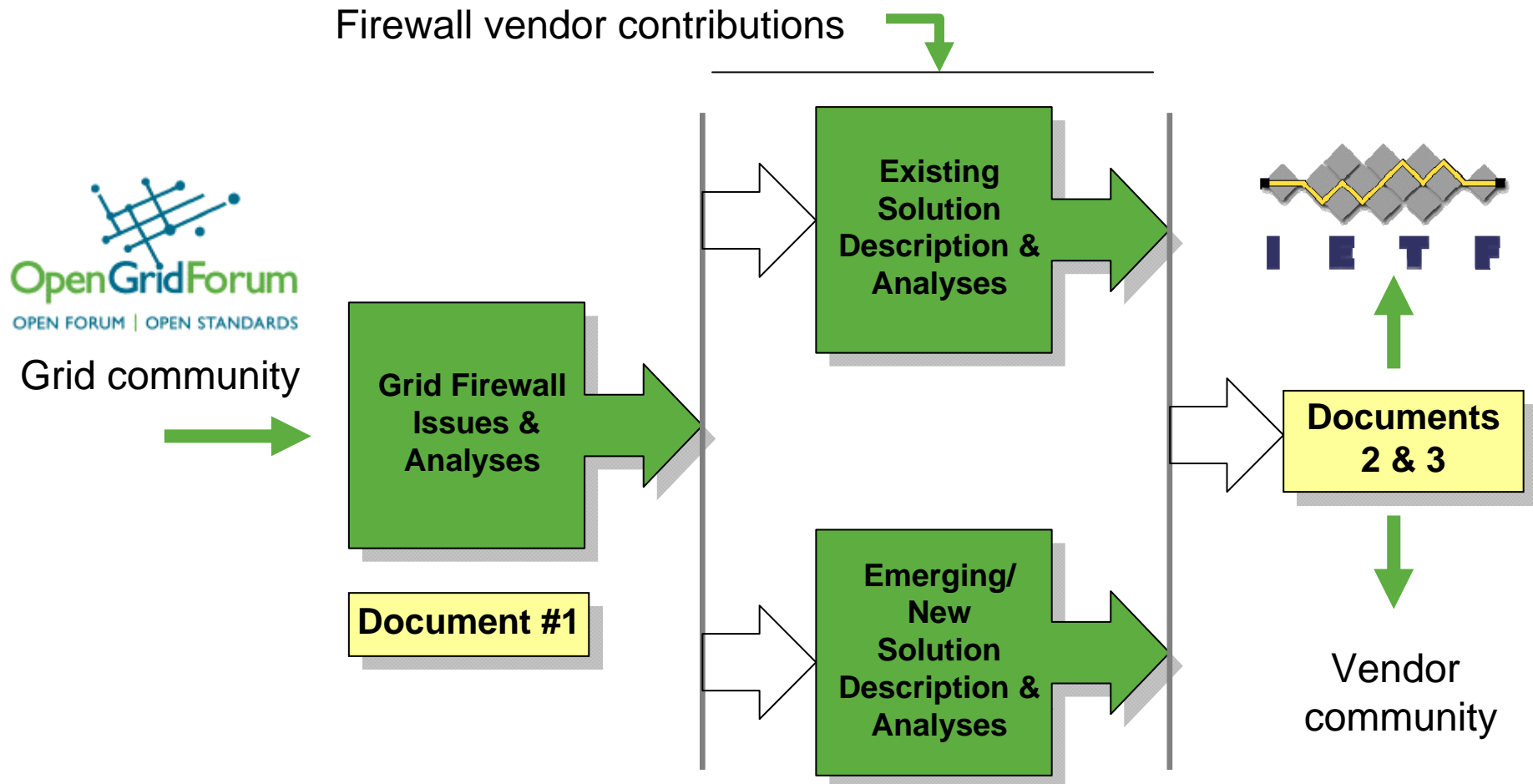
Thijs Metsch
German Aerospace Center – DLR e.V.
Argonne National Lab

OGF IPR Policies Apply



- “I acknowledge that participation in this meeting is subject to the OGF Intellectual Property Policy.”
- Intellectual Property Notices Note Well: All statements related to the activities of the OGF and addressed to the OGF are subject to all provisions of Appendix B of GFD-C.1, which grants to the OGF and its participants certain licenses and rights in such statements. Such statements include verbal statements in OGF meetings, as well as written and electronic communications made at any time or place, which are addressed to:
 - the OGF plenary session,
 - any OGF working group or portion thereof,
 - the OGF Board of Directors, the GFSG, or any member thereof on behalf of the OGF,
 - the ADCOM, or any member thereof on behalf of the ADCOM,
 - any OGF mailing list, including any group list, or any other list functioning under OGF auspices,
 - the OGF Editor or the document authoring and review process
- Statements made outside of a OGF meeting, mailing list or other function, that are clearly not intended to be input to an OGF activity, group or function, are not subject to these provisions.
- Excerpt from Appendix B of GFD-C.1: “Where the OGF knows of rights, or claimed rights, the OGF secretariat shall attempt to obtain from the claimant of such rights, a written assurance that upon approval by the GFSG of the relevant OGF document(s), any party will be able to obtain the right to implement, use and distribute the technology or works when implementing, using or distributing technology based upon the specific specification(s) under openly specified, reasonable, non-discriminatory terms. The working group or research group proposing the use of the technology with respect to which the proprietary rights are claimed may assist the OGF secretariat in this effort. The results of this procedure shall not affect advancement of document, except that the GFSG may defer approval where a delay may facilitate the obtaining of such assurances. The results will, however, be recorded by the OGF Secretariat, and made available. The GFSG may also direct that a summary of the results be included in any GFD published containing the specification.”
- OGF Intellectual Property Policies are adapted from the IETF Intellectual Property Policies that support the Internet Standards Process.

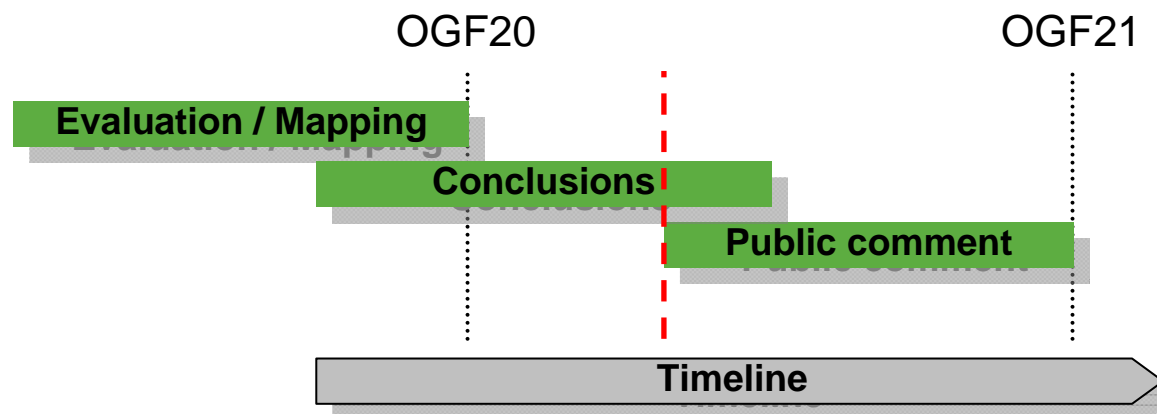
The next documents



Current status

- We are behind schedule
- First draft of the current document is available
- Mapping of the requirements and the currently available solutions is done

OGF-R, OGF-C or OGF-D Firewall Issues Research Group	Thilo Metzdorf, German Aerospace Center May 1, 2007 Updated: May 1, 2007
Title of Document	
Status of This Document	
This document provides information to the Grid community about firewall issues in grid environments. Distribution is unlimited.	
Copyright Notice	
Copyright © Open Grid Forum (2007). All Rights Reserved.	
Trademark	
Open Grid Services Architecture and OGSAs are trademarks of the Open Grid Forum.	
Abstract	
This document evaluates approaches and solutions (the firewall issues) such as application level gateways, host based firewalls, VPN style gateways etc.	
Contents	
Abstract	1
1. Introduction	2
2. Requirements from document #1	2
2.1 General Requirements	2
2.2 Requirements on Hardware on the communication path	2
2.3 Requirements for the Support of Grid Middleware Solutions/Protocols	2
2.4 Requirements on Data Transfer and Storage	2
2.5 Requirements on Performance and Configuration	3
3. Solutions	3
3.1 High speed firewalls	3
3.2 Load balancing firewalls	3
3.3 Dynamic Firewall	3
3.4 Cooperative On-Demand Opening	3
3.5 Generic Connection Brokerage	3
3.6 UDP Hole Punching	3
3.7 Application Level Gateway / Proxies	3
3.8 A framework for Tunnel Based Firewalling in Hybrid GMPIS networks	3
4. Matching of the solutions and the requirements	3
5. Contributors	3
6. Disclaimer	3
7. Full Copyright Notice	3
8. References	3



Solutions



- Currently available/developed solutions:
 - High speed Firewalls
 - Load Balancing Firewalls
 - Dyna-Fire
 - Cooperative On_Demand Opening
 - Generic Connection Brokering
 - UDP hole Punching
 - Application Level Gateway / Proxies
 - Token Based Firewalling in Hybrid GMPLS Networks
- Solutions all have a different point of view:
 - Infrastructure – There are problems when bandwidth while using Grid Technologies.
 - Opening Firewalls – How to dynamically open firewalls.
 - Enforcing policies – Addresses topics on how to secure data transfers.

Requirements

Ids	Topic
G010 – G020	General requirements which emerge from the usage of Grids in firewalled environments
H010 – H020	Requirements on Hardware / Connections
M010-M060	Requirements for the support of grid middleware solutions
D010-D020	Data storage requirements
P010-P020	Requirements on performance

Requirement analyses

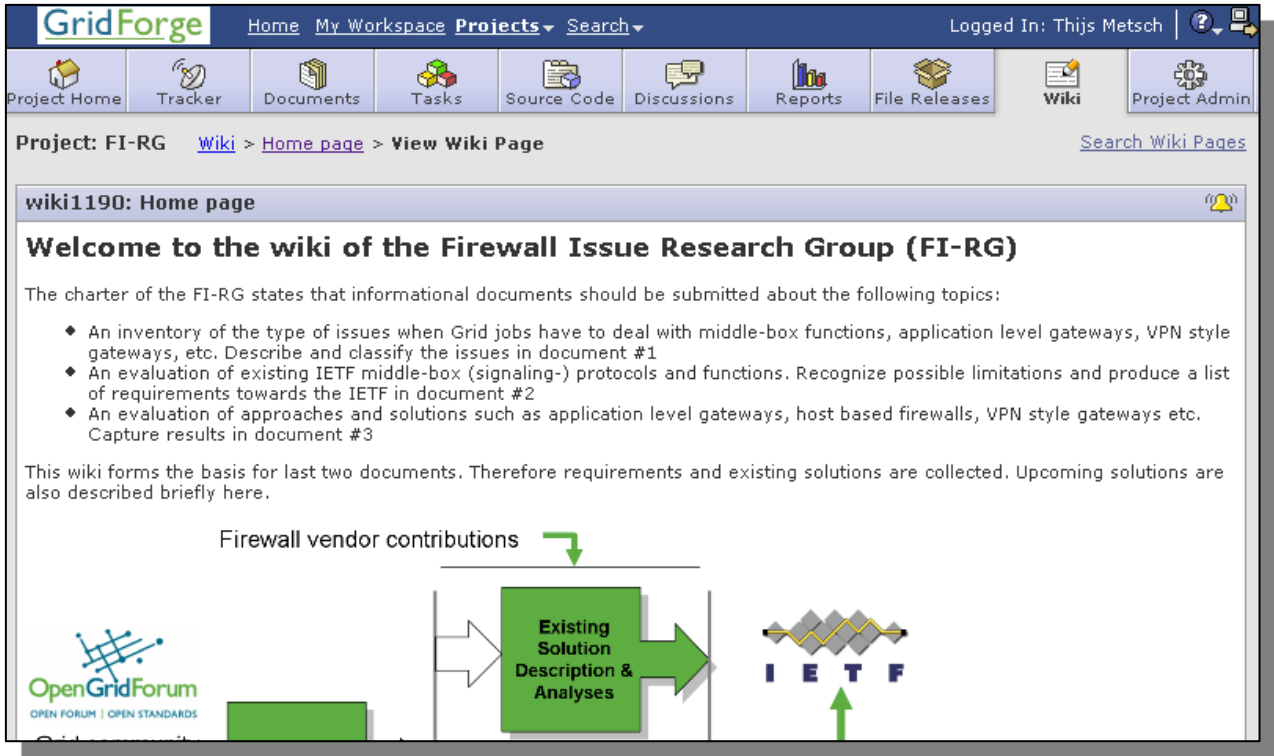
Name of Solution / ID of requirement	G0 10	G0 20	G0 30	G0 40	H0 10	H0 20	M0 10	M0 20	M0 30	M0 40	M0 50	M0 60	D0 10	D0 20	P0 10	P0 20
High speed FWs			N/A				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A
Load Balancing FWs			N/A				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A
Dyna-Fire					N/A										N/A	
Cooperative On_Demand Opening					N/A										N/A	
Generic Connection Brokering					N/A										N/A	
UDP hole Punching					N/A										N/A	
Application Level Gateway / Proxies					N/A										N/A	
Token Based FWing in Hybird GMPLS Networks					N/A										N/A	

Conclusions

- The requirements which are not addressed:
 - Number and kinds of hardware in a routing path need to be known - *Medium*
 - Support the usage of internal and external service EPR - *Medium*
 - Support the usage of ephemeral internal EPRs which are mapped to external EPRs - *Medium*
 - Support usage of arbitrary numbers of sockets (which can vary in time) – *High*
- Conclusions
 - Solutions might address the requirements in different ways
 - No solution currently solves all issues – biggest issue data transfer
 - How to work on the gaps?

Questions & Suggestions

<https://forge.gridforum.org/sf/projects/fi-rg/>



The screenshot shows the GridForge web interface. The top navigation bar includes links for Home, My Workspace, Projects, and Search. A user is logged in as 'Thijs Metsch'. Below the navigation bar is a toolbar with icons for Project Home, Tracker, Documents, Tasks, Source Code, Discussions, Reports, File Releases, Wiki, and Project Admin. The main content area displays the 'Project: FI-RG' page, specifically the 'Home page' of the wiki. The page title is 'wiki1190: Home page'. The content includes a welcome message and a list of topics for informational documents: an inventory of Grid jobs, an evaluation of IETF middle-box protocols, and an evaluation of approaches and solutions. A diagram at the bottom illustrates the flow of information: 'Firewall vendor contributions' lead into a box labeled 'Existing Solution Description & Analyses', which then points to the 'IETF' logo.

GridForge Home My Workspace Projects Search Logged In: Thijs Metsch

Project Home Tracker Documents Tasks Source Code Discussions Reports File Releases Wiki Project Admin

Project: FI-RG Wiki > Home page > View Wiki Page Search Wiki Pages

wiki1190: Home page

Welcome to the wiki of the Firewall Issue Research Group (FI-RG)

The charter of the FI-RG states that informational documents should be submitted about the following topics:

- ◆ An inventory of the type of issues when Grid jobs have to deal with middle-box functions, application level gateways, VPN style gateways, etc. Describe and classify the issues in document #1
- ◆ An evaluation of existing IETF middle-box (signaling-) protocols and functions. Recognize possible limitations and produce a list of requirements towards the IETF in document #2
- ◆ An evaluation of approaches and solutions such as application level gateways, host based firewalls, VPN style gateways etc. Capture results in document #3

This wiki forms the basis for last two documents. Therefore requirements and existing solutions are collected. Upcoming solutions are also described briefly here.

Firewall vendor contributions

Existing Solution Description & Analyses

IETF

Full Copyright Notice



Copyright (C) Open Grid Forum (2007). All Rights Reserved.

This document and translations of it may be copied and furnished to others, and derivative works that comment on or otherwise explain it or assist in its implementation may be prepared, copied, published and distributed, in whole or in part, without restriction of any kind, provided that the above copyright notice and this paragraph are included on all such copies and derivative works.

The limited permissions granted above are perpetual and will not be revoked by the OGF or its successors or assignees.