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# Firewall Virtualization for Grid Applications
# -
# Work Group

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# Agenda

0.) Agenda, note-taker, IPR statement, Charter discussion

1.) Introduction and status of FVGA-WG

2.) Group discussions

# Introduction and status of FVGA-WG

# FVGA-WG
# Administrative Issues

**Group Name:** Firewall Virtualization for Grid Applications - Working Group (FVGA-WG)

**Area:** Infrastructure

**Mailing list:** fvga-wg@ogf.org

**Projects page:**
https://forge.gridforum.org/sf/projects/fvga-wg

**Protocol draft:**
http://forge.gridforum.org/sf/docman/do/downloadDocument/projects.fvga-wg/docman.root.drafts/doc15527/1

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# Group Summary

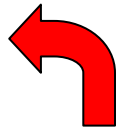
- Grid Computing
  - vision of applications having on-demand, ubiquitous access to distributed services running on diverse, managed resources like computation, storage, instruments, and networks among others, that are owned by multiple administrators.
- fi-rg has documented use cases & issues that Grid applications face (GFD.83) with firewalls and has documented which cases need additional attention (GFD.142)
- fvga-wg
  - will leverage the application requirements from FI-RG
  - standardize a set of service definitions for a virtualized control interface into firewalls and other midboxes allowing grid applications to securely and dynamically request application/workflow-specific services

# Goals/Deliverables

- Produce a standardized protocol for an authorized grid application to specify its data-path traversal requirements:
  - Port opening/closing service
  - Requests from within and outside the security domain
- A set of security recommendations surrounding the application interacting with the Firewall service at the control and data plane including AAA of the service requests
- A best practices document for the network-administrator and a grid-administrator to understand the architecture and security implications of this deployment including:
  - Deployment scenarios and use-cases
  - Interactions between various Grid components
  - Examples of successful prototype deployments
- The resulting standard, the security recommendations and the best practices document developed by the working-group will enable Grid-Middleware services developers to include a dynamic firewall service into their Grid applications.

# Group Milestones

| | |
|---|---|
| OGF23: | Charter discussion and group volunteers |
| OGF24: | Discussion on requirements to define the standardized service interface for virtualized Firewalls |
| OGF25: | Draft on Firewall-Virtualization-Service |
| | Discussion on Security, AAA and Grid-Security aspects |
| OGF26: | Firewall Virtualization-Service draft version 2 |
| | First draft on Security recommendations (v1) for FVGA |
| OGF27: | Finalized Firewall Virtualization-Service draft |
| | Security Recommendations v2 |
| | Two implementations and demonstration |
| | Discussion on Best Practices draft |
| OGF28: | WG-Last-Call for Firewall Virtualization-Service |
| | Final version of Security Recommendations |
| | First draft on Best Practices |
| OGF 29: | WG-Last-Call Security Recommendations |
| | Finalize Best Practices draft |
| OGF 30: | WG-Last-Call Best Practices Draft. |



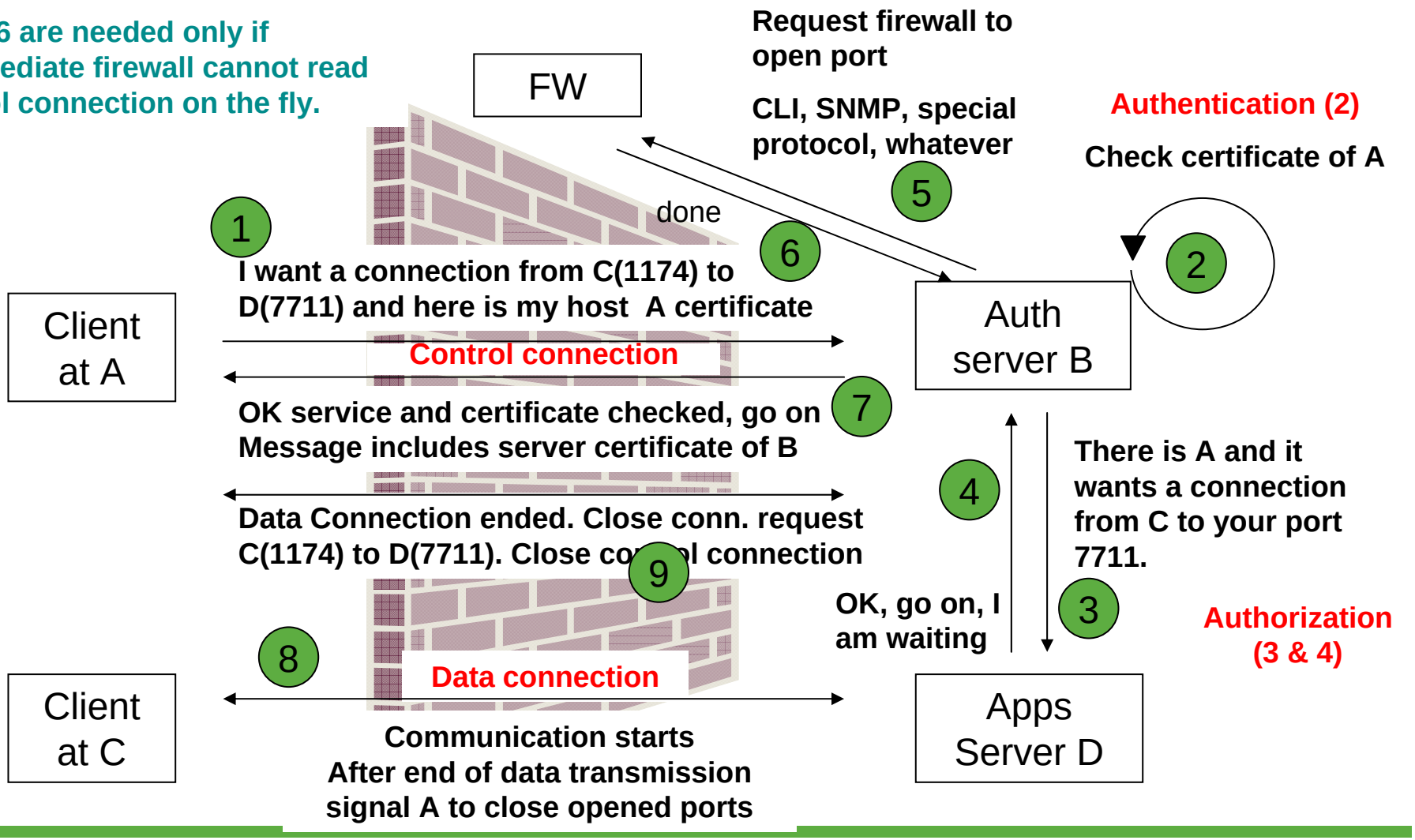
**We are still here**

# Proposed Solution

- Make middleware and network resources known to each other
  - Grid middlewares should know, but must not know about communication path
  - network resources should be opened dynamically
- End-to-end applicability
- Local authorization/authentication
- Independence of the FW vendor/implementation
  - Capabilities may be different

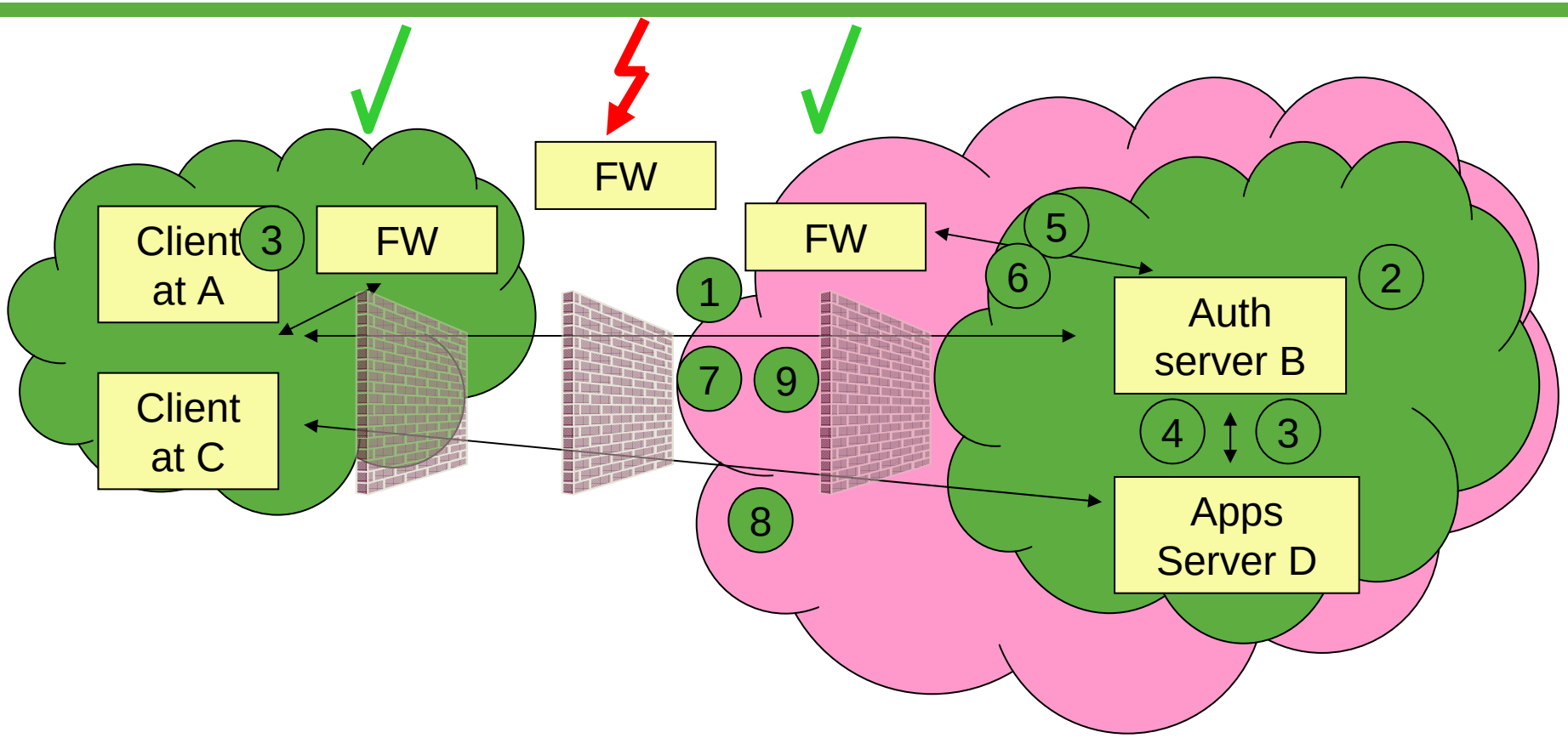
# principle design for FW opening

5 and 6 are needed only if intermediate firewall cannot read control connection on the fly.



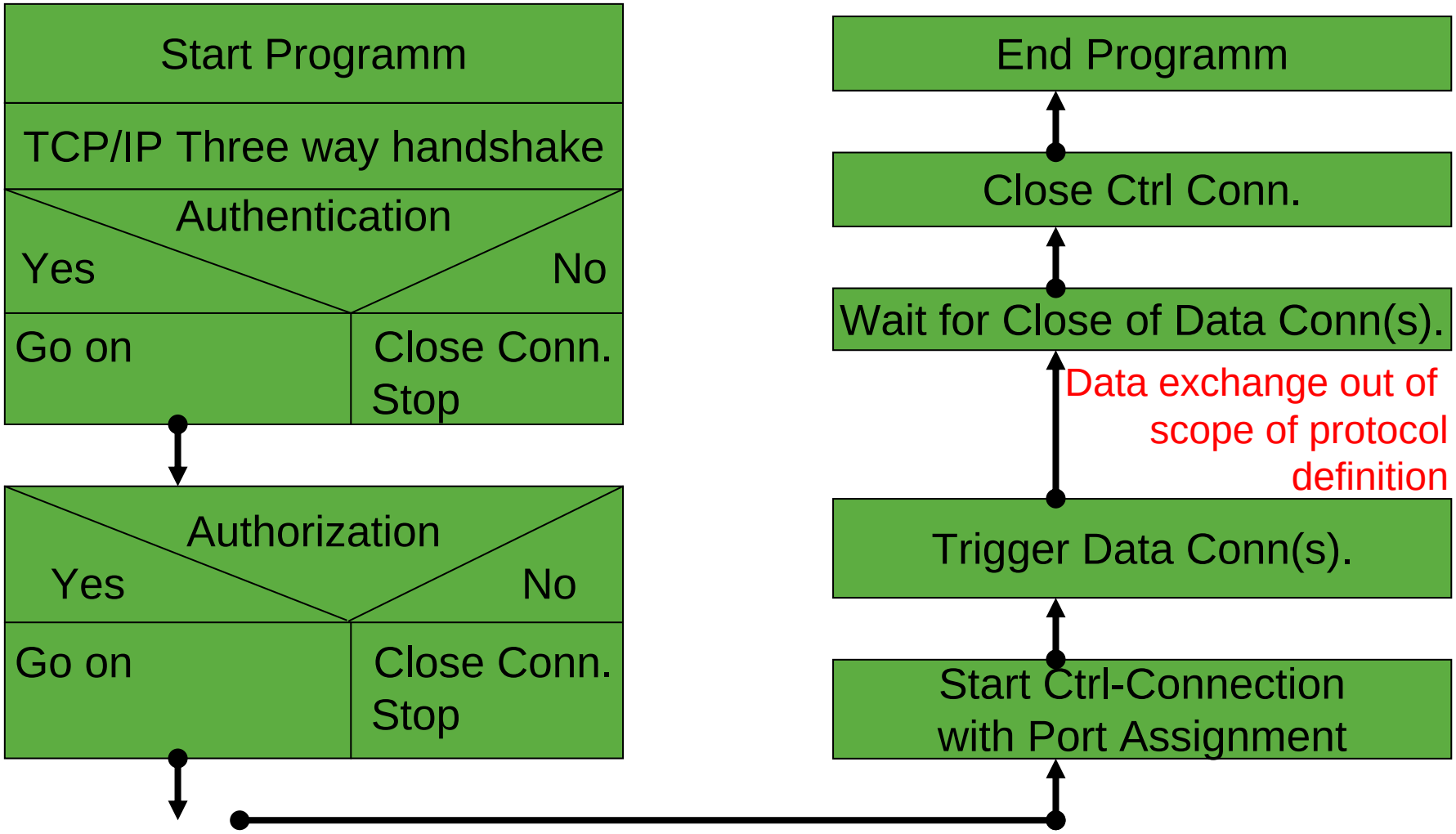
# WebServices based FW opening

## Multiple local, remote and external FWs




This part can be solved only, if control connection is unencrypted, i.e. intermediate firewalls can read datastream of control connection.

# Program flow chart



# Status of working group

- A Firewall Traversal Protocol (FiTP) has been defined which allows opening of ports on intermediate firewalls.
- In principle this protocol defines the control connection discussed in the previous slides.
- Protocol draft is still under discussion (first discussion in OGF 25, second time in OGF 26)
- Protocol has been forwarded to IETF members for feedback.
- No comments received until now.

- Next steps:
- Further discussion on draft in OGF 27
- Including feedback from IETF into protocol draft (**no feedback yet**)
- Providing two independent implementations (client and server)
- After refinements: standardization at OGF and IETF
- Timeline: one to two OGFs behind milestones

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# Questions and discussion