WS-Resource Framework: Globus Alliance Perspectives

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Perspectives

◆ Why is WSRF important?

◆ How does WSRF relate to the Open Grid Services Infrastructure (OGSI)?

◆ How does WSRF relate to the Open Grid Services Architecture (OGSA)?

◆ What will the Globus Alliance do with WSRF?
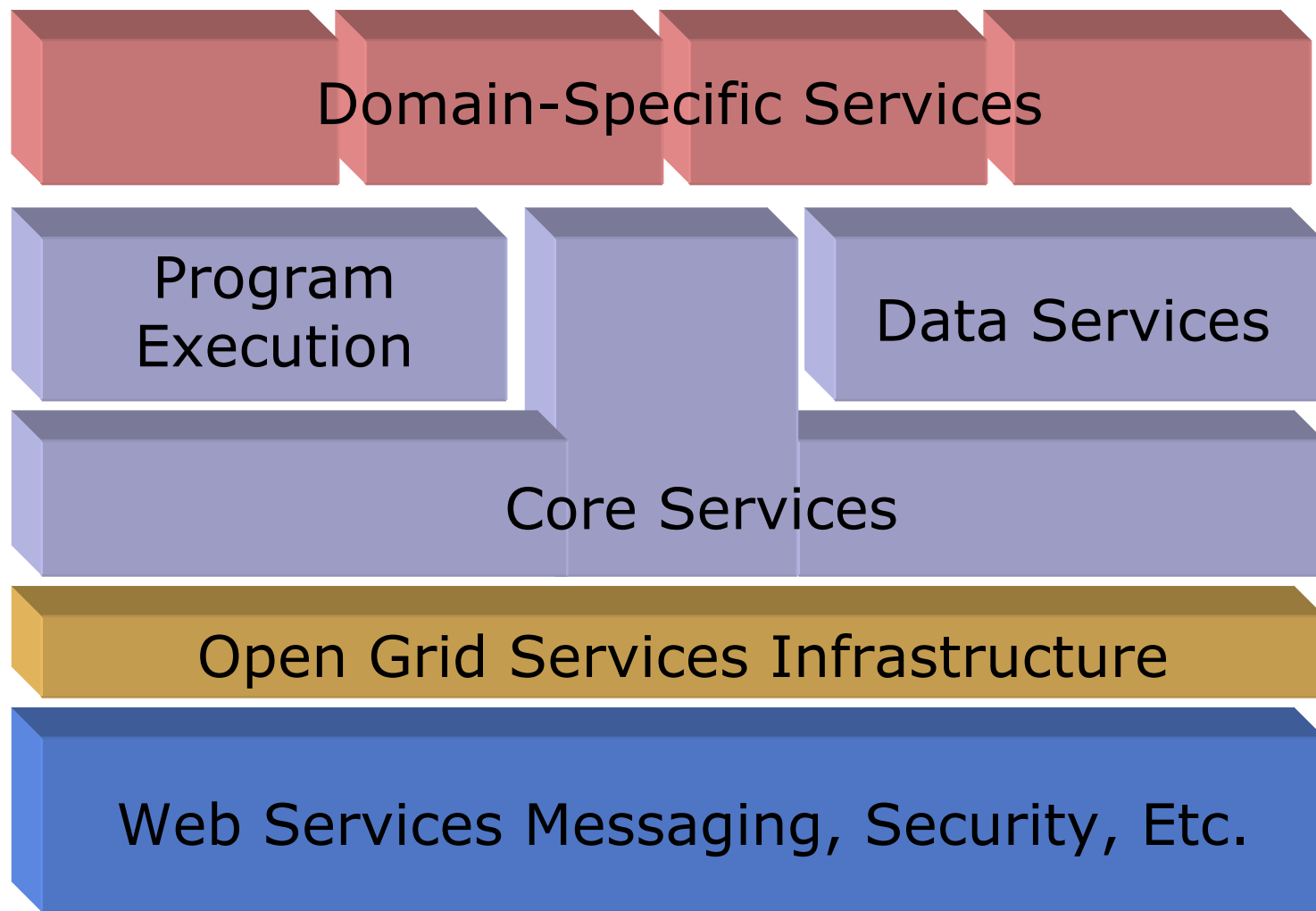
◆ What does WSRF mean for Globus Toolkit users?

Context:
Open Grid Services Architecture

- Define a service-oriented architecture …
  - the key to effective virtualization
- … to address vital "Grid" requirements
  - AKA utility, on-demand, system management, collaborative computing
- … building on Web services standards
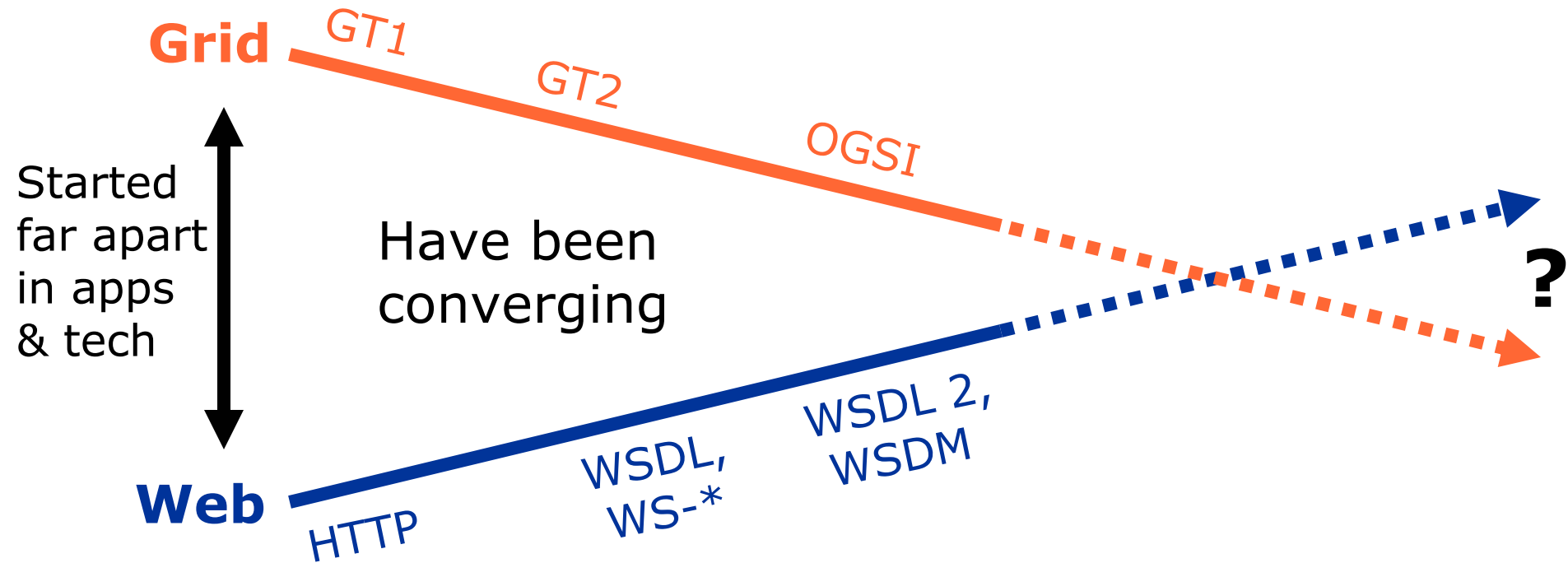 - extending those standards where needed

Open Grid Services Architecture (www.ggf.org/ogsa-wg)

the globus alliance
www.globus.org

Standardization

Domain-Specific Services

Program Execution

Data Services

Core Services

Open Grid Services Infrastructure

Web Services Messaging, Security, Etc.

Grid and Web Services: Convergence?

Grid — GT1 — GT2 — OGSI

Started far apart in apps & tech

Have been converging

Web — HTTP — WSDL, WS-* — WSDL 2, WSDM

?

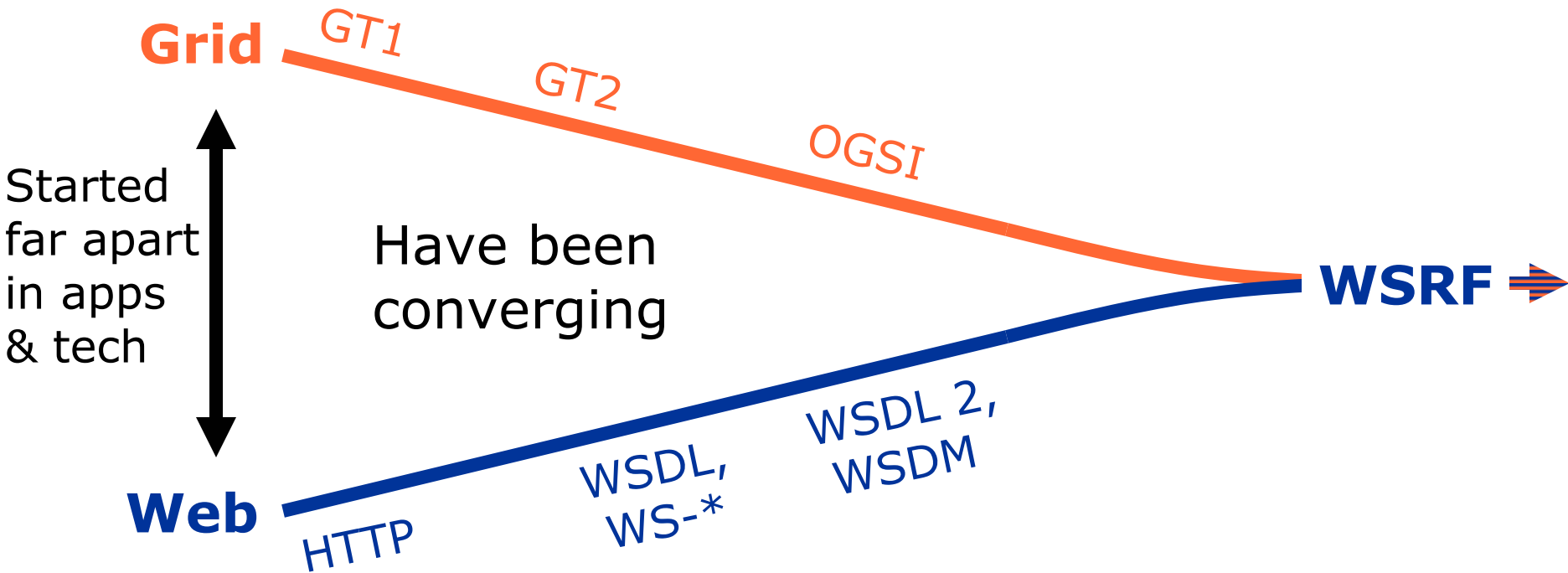However, despite enthusiasm for OGSI, adoption within Web community turned out to be problematic

Three Major Web Services Concerns about OGSI

◆ Too much stuff in one specification

◆ Does not work well with existing Web services tooling

◆ Too "object oriented"

Grid and Web Services: Convergence: Yes!

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WSRF

The definition of WSRF means that Grid and Web communities can move forward on a common base

Concerns Addressed

◆ Too much stuff in one specification

  → WSRF partitions OGSI v1.0 functionality into a family of composable specifications

◆ Does not work well with existing Web services tooling

  → WSRF tones down the usage of XML Schema

◆ Too object oriented

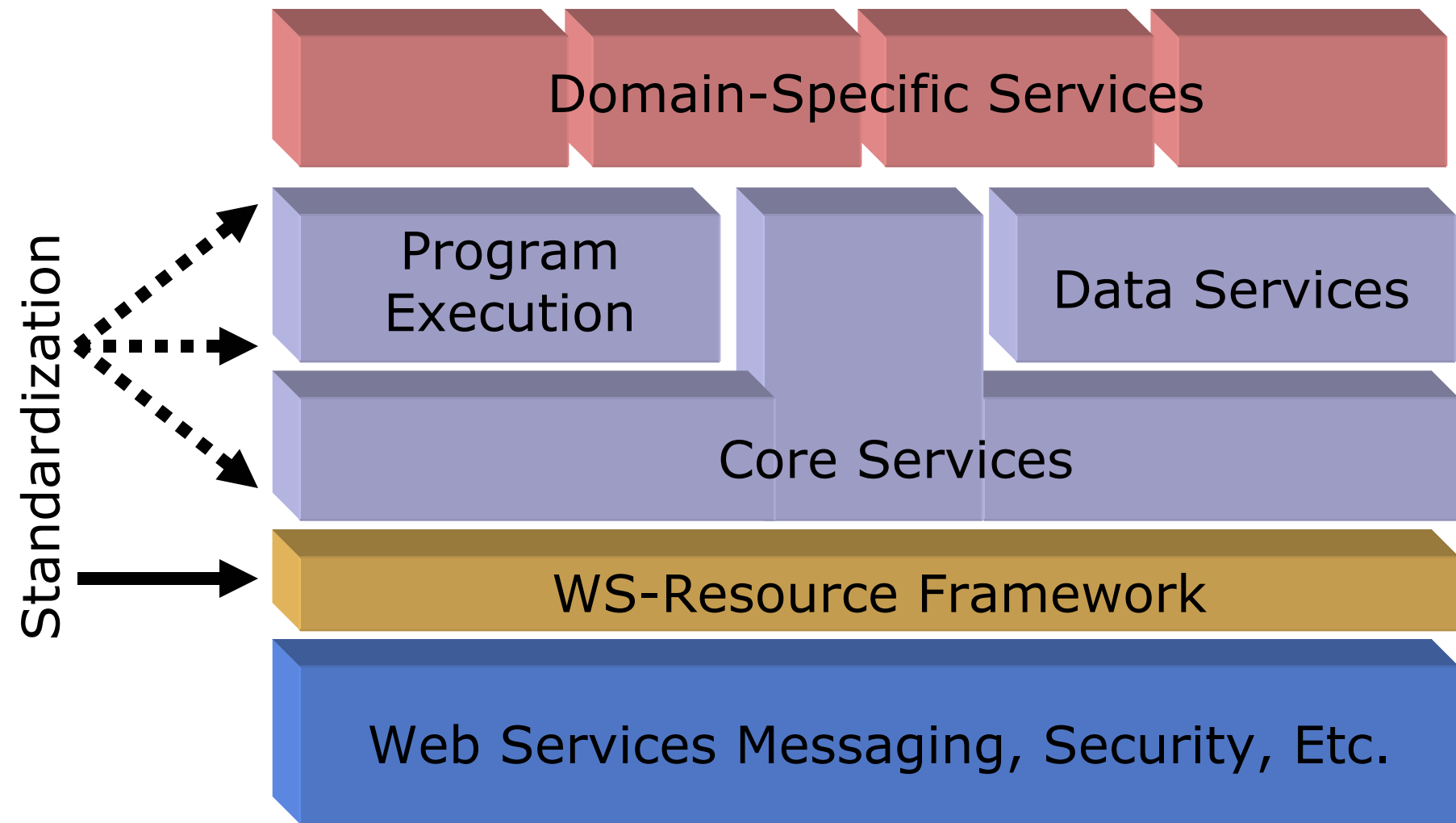 → WSRF makes an explicit distinction between the "service" and the stateful "resources" acted upon by that service

From OGSI to WSRF: Refactoring and Evolution**

OGSI	WSRF
Grid Service Reference	*WS-Addressing* Endpoint Reference
Grid Service Handle	*WS-Addressing* Endpoint Reference
HandleResolver portType	**WS-RenewableReferences**
Service data defn & access	**WS-ResourceProperties**
GridService lifetime mgmt	**WS-ResourceLifeCycle**
Notification portTypes	**WS-Notification**
Factory portType	Treated as a pattern
ServiceGroup portTypes	**WS-ServiceGroup**
Base fault type	**WS-BaseFaults**

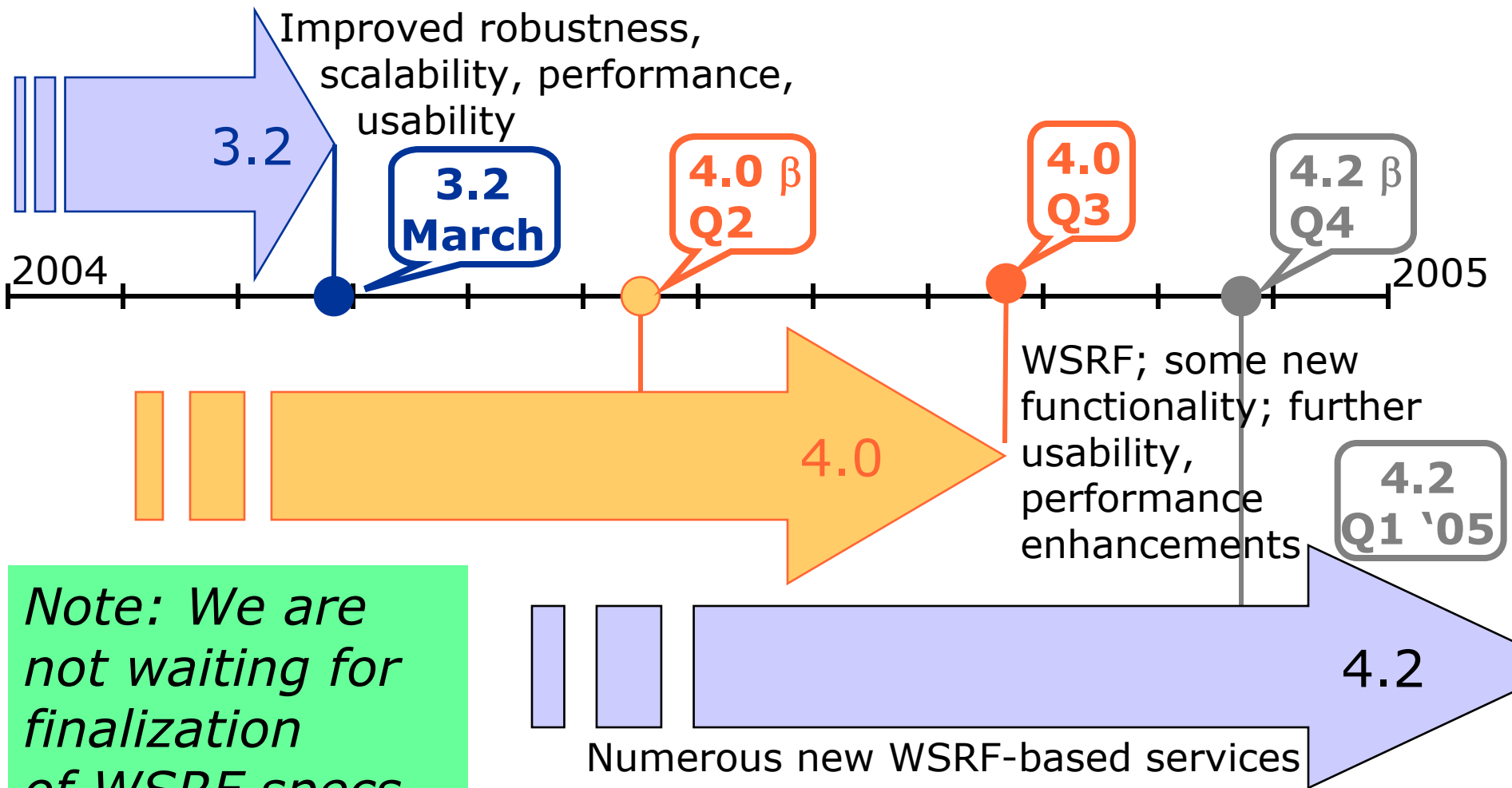**Draft document at www.globus.org/wsrf this week

Open Grid Services Architecture

Domain-Specific Services

Program Execution

Data Services

Core Services

WS-Resource Framework

Web Services Messaging, Security, Etc.

Standardization

Implications for the Globus Community

- Production deployments based on GT pre-OGSI components
  - These components will be included in 3.2 and 4.x, and we will continue to support you
- Projects based on GT OGSI components
  - Changes are regretted but promise ubiquity
  - We will work to ease transition to WSRF
  - Similarities between OGSI and WSRF imply that most changes will be straightforward

Summary

- ### Why is WSRF important?
  - ◇ WSRF completes Grid/Web convergence
- ### How does WSRF relate to OGSI?
  - ◇ WSRF restates OGSI concepts in WS terms
- ### How does WSRF relate to OGSA?
  - ◇ WSRF mechanisms will enable OGSA
- ### What will Globus Alliance do with WSRF?
  - ◇ WSRF-based GT4.0 planned for Q3 2004
- ### What does WSRF mean for GT3.0 users?
  - ◇ For the most only minor changes

For More Information

◆ Specifications, architecture documents, FAQ, and other information
  ◇ http://www.globus.org/wsrf

◆ Discussion forum
  ◇ http://www.ggf.org/ogsi-wg

◆ GlobusWORLD Sessions
  ◇ Tuesday, 10:30a: Panel
  ◇ Wednesday, 4:30p: WSRF Technical Details
  ◇ Thursday, 10:30a: Meet the WSRF Authors