

DDS

Dynamic Deployment System

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The Dynamic Deployment System

is a tool-set that automates and dramatically simplifies the process of deployment of user defined processes with their dependencies on any resource management system using a given topology

Basic concepts

DDS:

- implements a single-responsibility-principle command line tool-set and APIs,
- treats users' tasks as black boxes,
- doesn't depend on RMS (provides deployment via SSH, when no RMS is present),
- supports workers behind FireWalls,
- doesn't require pre-installation on WNs,
- deploys private facilities on demand with isolated sandboxes,
- provides a key-value properties propagation service for tasks,
- provides a rules based execution of tasks.

The system takes so called “topology file” as the input.
Users describe desired tasks and their dependencies using this file.

```
<topology id="myTopology">  
  <decltask id="task1">  
    <exe reachable="false">/Users/andrey/Test1.sh -l</exe>  
  </decltask>  
  
  <decltask id="task2">  
    <exe>/Users/andrey/DDS/Test2.sh</exe>  
  </decltask>  
  
  <main id="main">  
    <task>task1</task>  
    <task>task2</task>  
  </main>  
</topology>
```

defines whether exe is available on WNs.
If not, DDS will automatically upload it to related WNs.

DDS learned to parse commands with command line arguments including quotes

DDS's SSH plug-in configuration

```
@bash_begin@  
echo "DBG: SSH ENV Script"  
@bash_end@
```

```
wn1, andrey@localhost, -p 24, /Users/andrey/dds_wn_test, 1  
wn2, andrey@localhost, , /Users/andrey/dds_wn_test, 4  
#wn3, andrey@localhost, , /Users/andrey/dds_wn_test, 1
```

User Workflow as of DDS v0.8

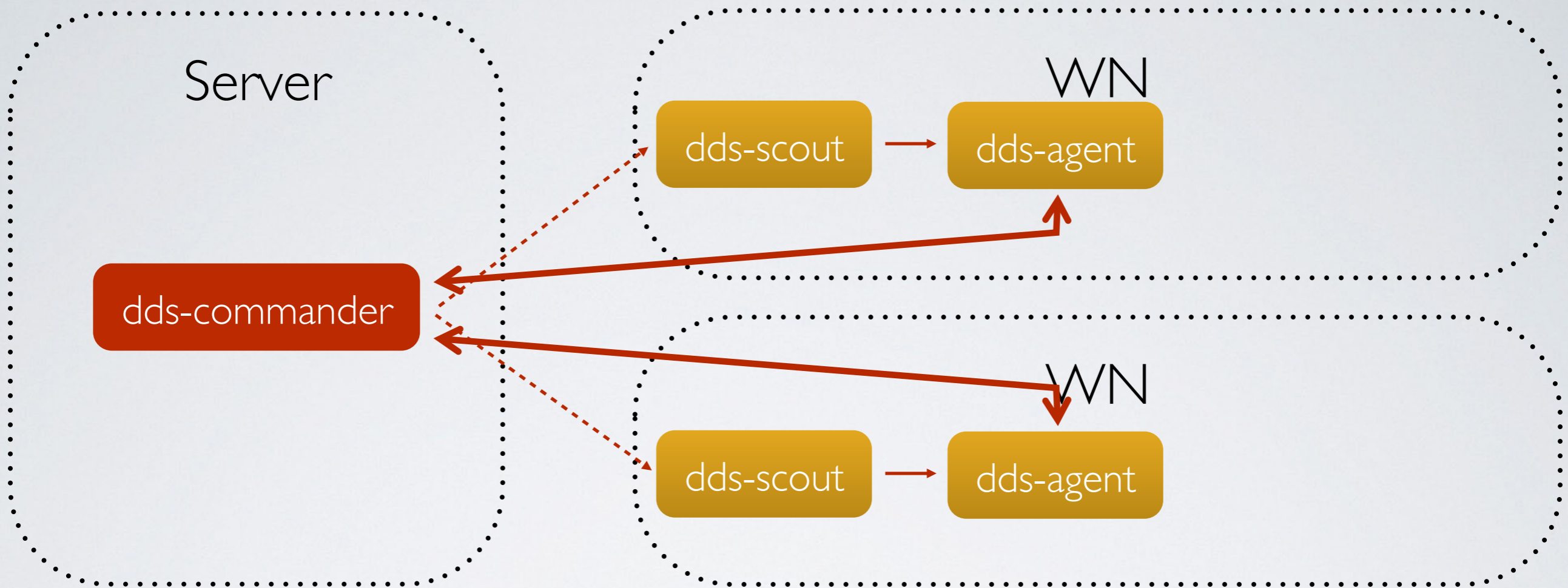
- Fire up DDS commander server,
- define and set a desired topology,
- choose RMS and deploy DDS agents,
- activate topology,
- stop DDS commander server.

Start DDS commander server



`dds-server start`

Choose RMS and Deploy DDS agents

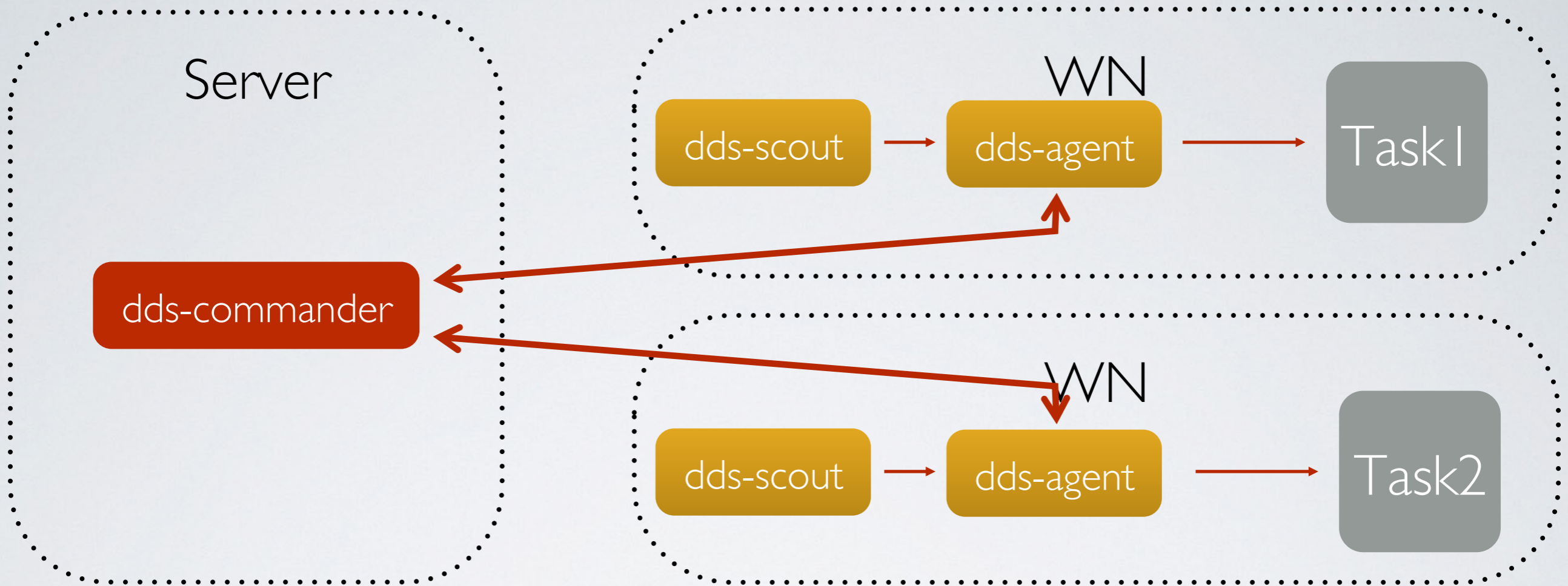


dds-server *start*

dds-topology *-t topology_test.xml*

dds-submit *-r ssh --ssh-rms-cfg ssh_hosts.cfg*

Topology activation



dds-server *start*

dds-topology *-t topology_test.xml*

dds-submit *-r ssh --ssh-rms-cfg ssh_hosts.cfg*

dds-topology *--activate*

Stop DDS

Either

> **dds-server** stop

or

leave DDS alone and it will automatically stop if idle for a defined amount of time (configurable).

Summary

- Current stable release - **DDS v0.8** (2015-02-16, <http://dds.gsi.de/download.html>)
- Home site: <http://dds.gsi.de>
- User's Manual: <http://dds.gsi.de/documentation.html>
- Continues integration: <http://demac012.gsi.de:22001/waterfall>
- Source Code:
<https://github.com/FairRootGroup/DDS>
<https://github.com/FairRootGroup/DDS-user-manual>
<https://github.com/FairRootGroup/DDS-web-site>
<https://github.com/FairRootGroup/DDS-topology-editor>