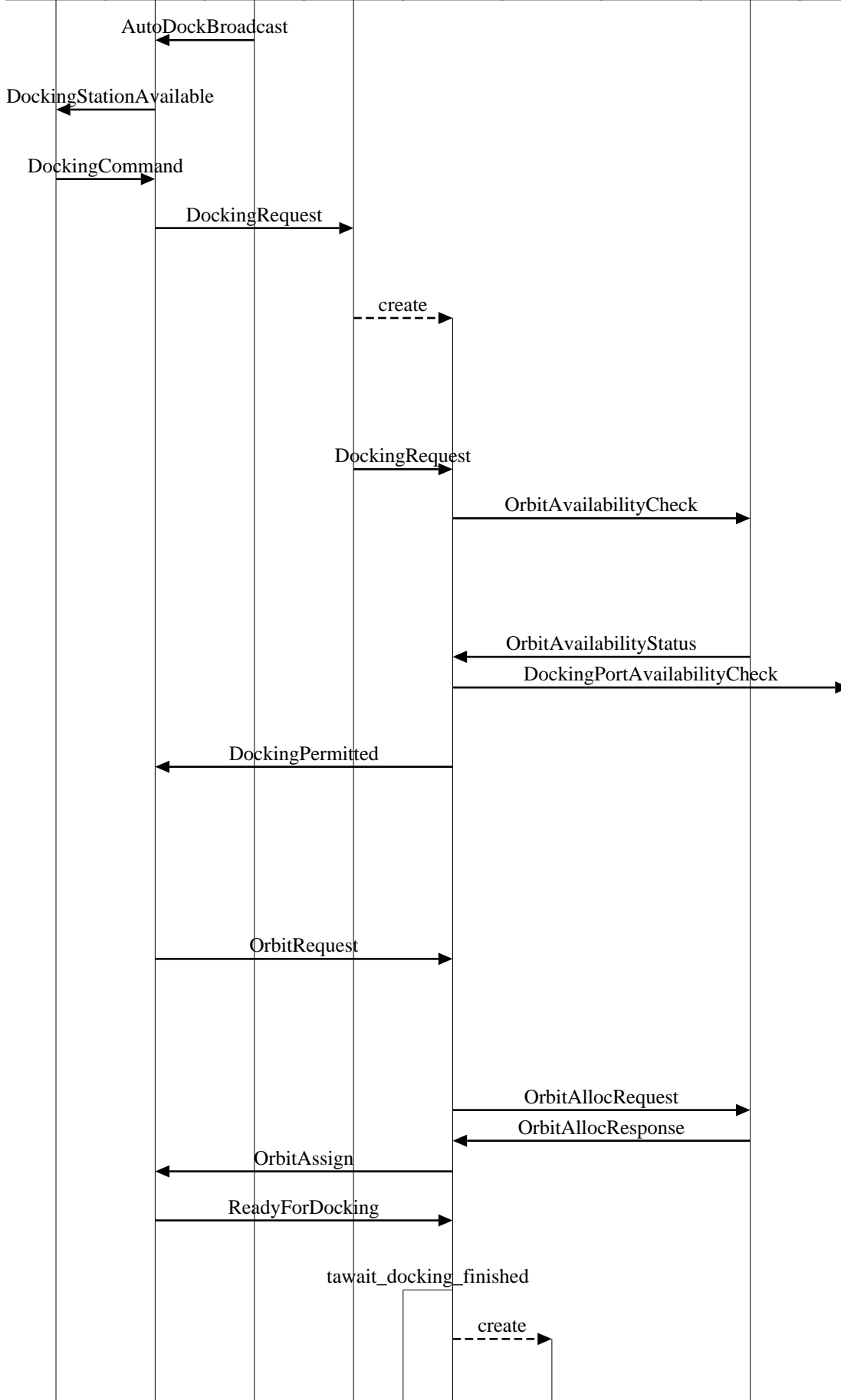


SpacePort Docking and Undocking Procedures (Successful Spacecraft Docking and Undocking)									
space		space port							EventHelix.com/EventStudio 2.0
spacecraft		central proc							
pilot	auto dock	broadcast mgr	spaceship obj mgr	spaceship obj	docking	undocking	orbit allocator	docking allocator	05-Jul-03 16:41 (Page 1)



Spacecraft receives the standard AirDock broadcast from SpacePort 9000

The pilot of the spacecraft is notified about the availability of the docking station

Pilot requests a docking. The station to dock to is specified

A docking request is sent out. The frequency for sending the message was obtained from the broadcast

Spaceship object manager uses the spacecraft number to find that it currently has no spaceship object assigned to handle this spacecraft. So it creates a spaceship object to handle the request

The docking request is passed to the newly created object

Spaceship Obj checks if sufficient orbit resources are available to handle this docking request

LEG: Orbit Resource is Available

Orbit resources are available

LEG: Docking Port is Available

The system has enough resources to handle the orbit request. Once DockingPermitted has been sent, the docking request should NOT be rejected due to resource unavailability. Refer to Chapter 3 of the AutoDock 1.0 Green book

Spacecraft is to be assigned a temporary orbit before docking since AutoDock 1.0 doesnot support direct docking and also only one docking or undocking procedure may be active at any given time

Inform details of the orbit assigned to the spacecraft

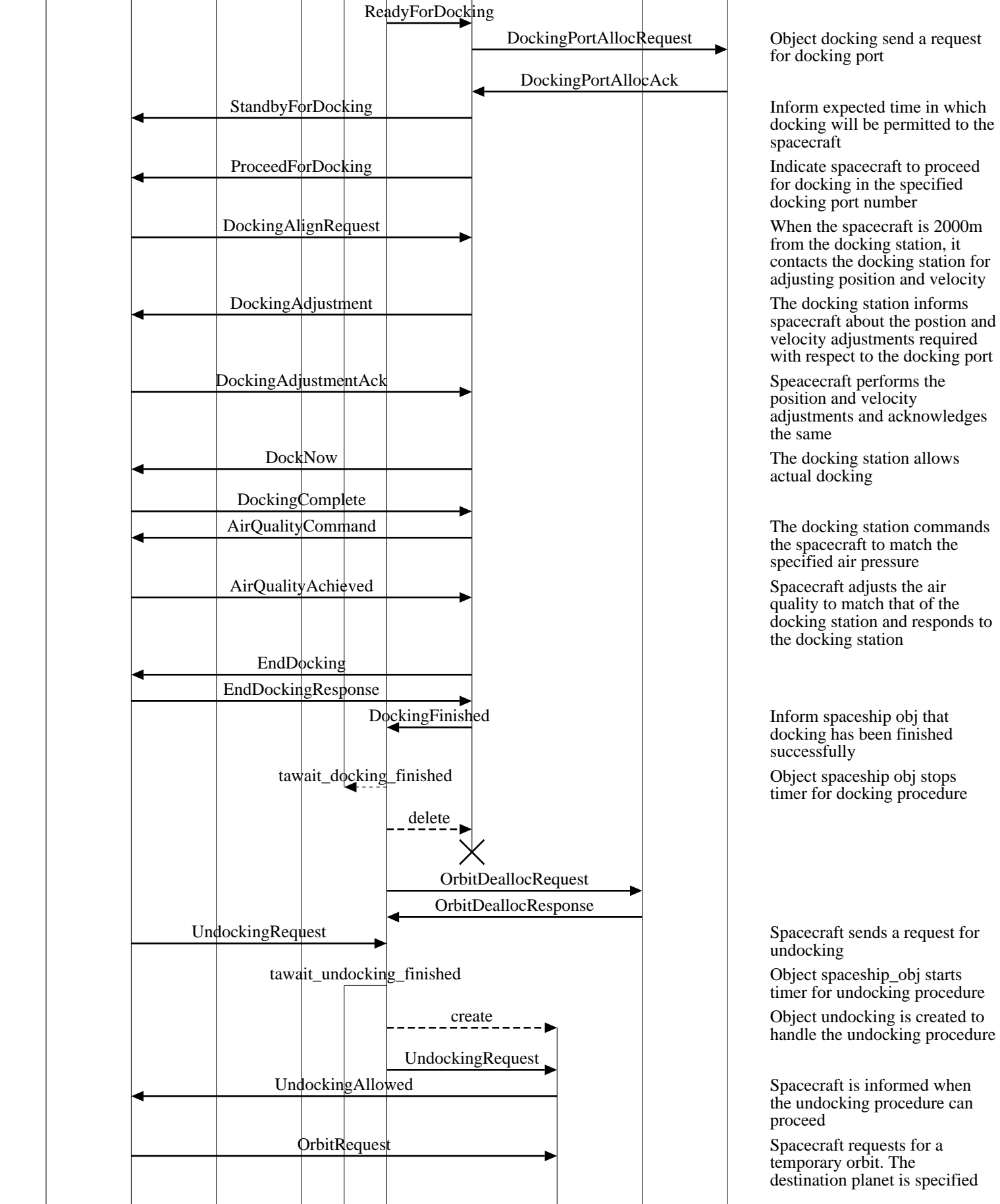
Spacecraft inform the docking station that it is ready for docking

Object spaceship obj starts timer for docking procedure

Object docking is created to handle the docking procedure

SpacePort Docking and Undocking Procedures (Successful Spacecraft Docking and Undocking)

space		space port							EventHelix.com/EventStudio 2.0
spacecraft		central proc							
pilot	auto dock	broadcast mgr	spaceship obj mgr	spaceship obj	docking	undocking	orbit allocator	docking allocator	05-Jul-03 16:41 (Page 2)



Object docking send a request for docking port

Inform expected time in which docking will be permitted to the spacecraft

Indicate spacecraft to proceed for docking in the specified docking port number

When the spacecraft is 2000m from the docking station, it contacts the docking station for adjusting position and velocity

The docking station informs spacecraft about the position and velocity adjustments required with respect to the docking port

Spacecraft performs the position and velocity adjustments and acknowledges the same

The docking station allows actual docking

The docking station commands the spacecraft to match the specified air pressure

Spacecraft adjusts the air quality to match that of the docking station and responds to the docking station

Inform spaceship obj that docking has been finished successfully

Object spaceship obj stops timer for docking procedure

Spacecraft sends a request for undocking

Object spaceship_obj starts timer for undocking procedure

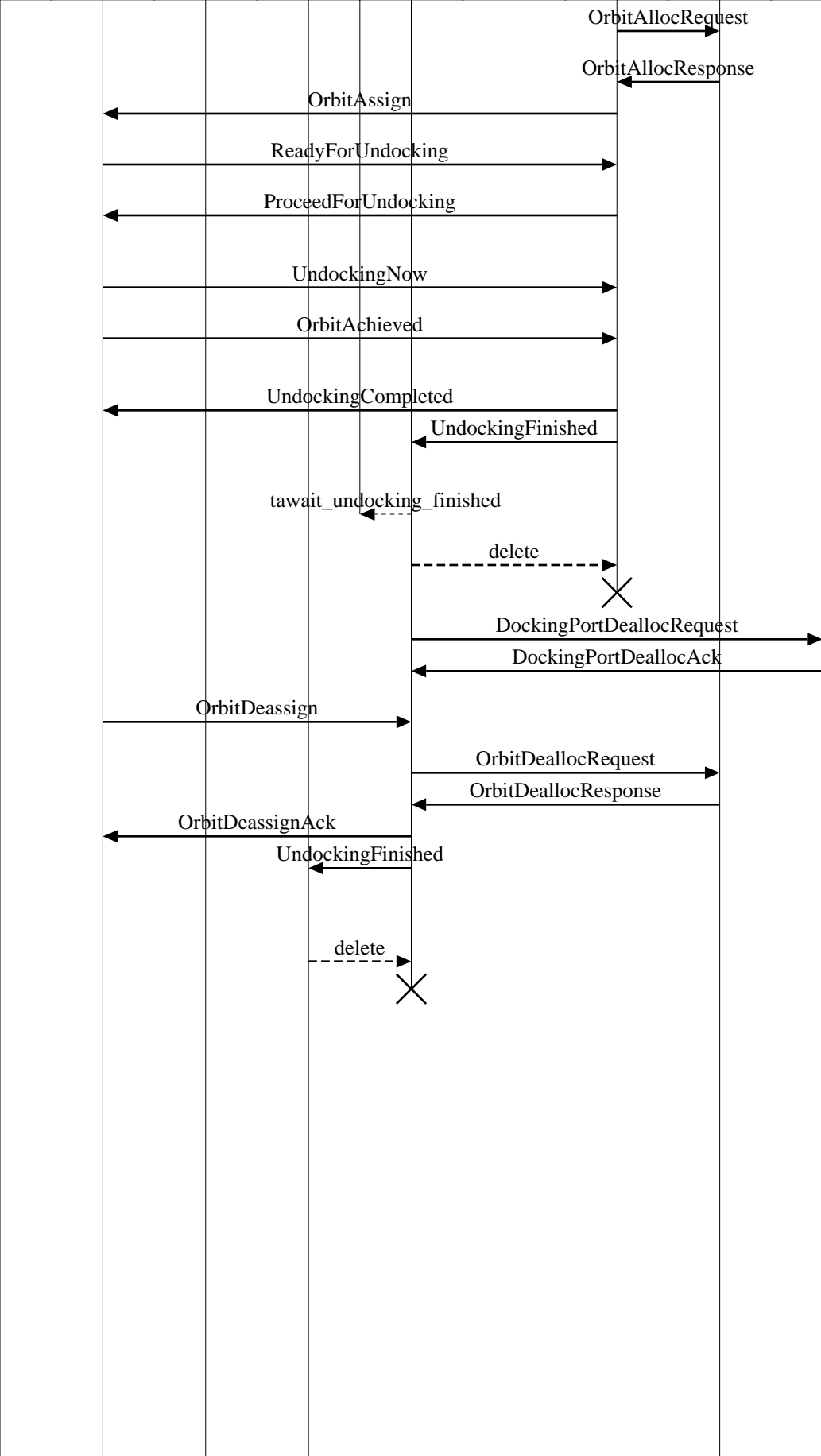
Object undocking is created to handle the undocking procedure

Spacecraft is informed when the undocking procedure can proceed

Spacecraft requests for a temporary orbit. The destination planet is specified

SpacePort Docking and Undocking Procedures (Successful Spacecraft Docking and Undocking)

space		space port							EventHelix.com/EventStudio 2.0
spacecraft		central proc							
pilot	auto dock	broadcast mgr	spaceship obj mgr	spaceship obj	docking	undocking	orbit allocator	docking allocator	05-Jul-03 16:41 (Page 3)



Request orbit allocator to assign a temporary orbit

Inform details of the assigned orbit to spacecraft

Spacecraft informs that it is ready to leave

The docking station indicates to proceed for undocking with the recommended velocity

Spacecraft leaves for the assigned orbit

Spacecraft informs the docking station that the assigned orbit has been reached

Inform spaceship obj that undocking has finished successfully

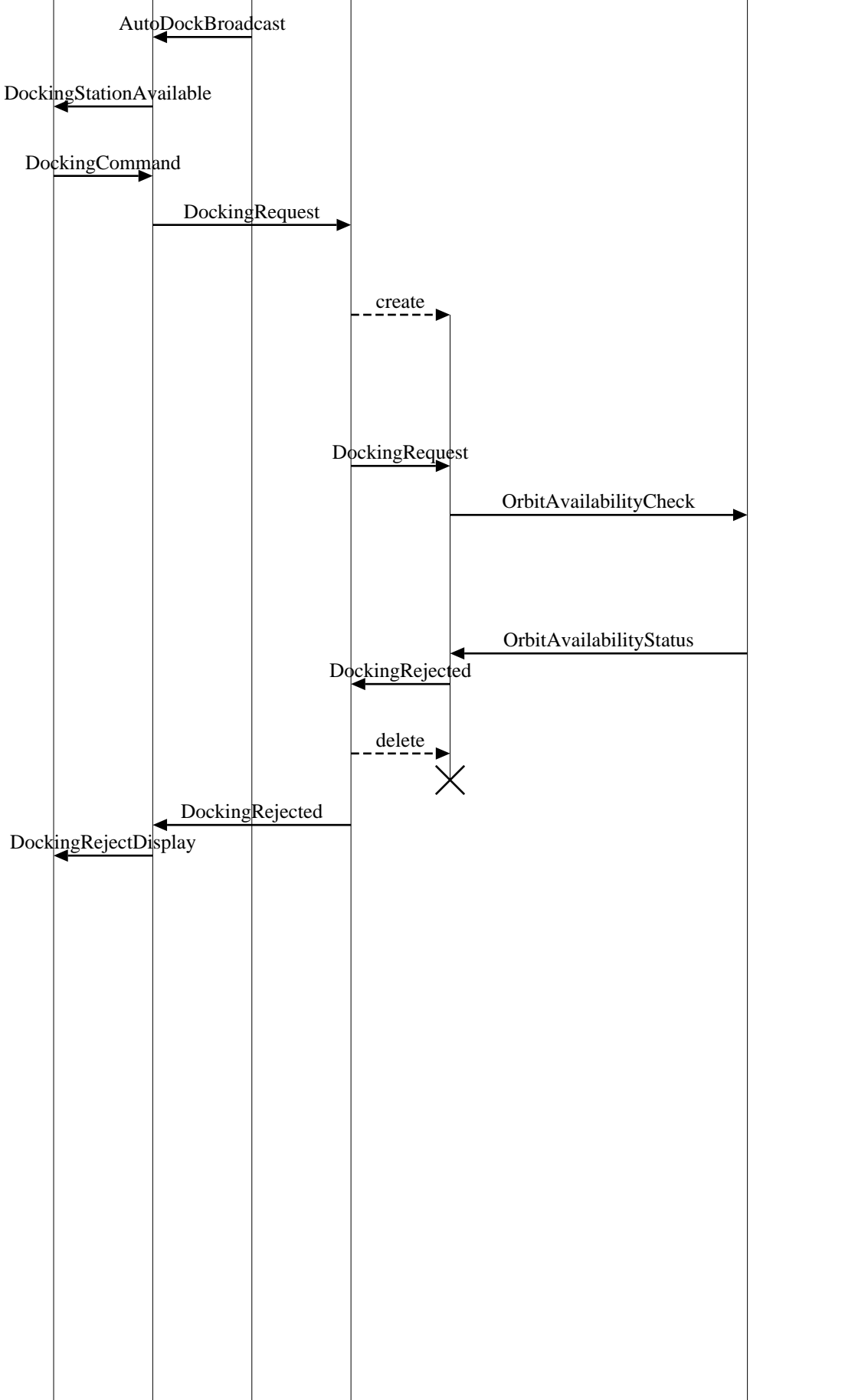
Object spaceship obj stops timer for undocking procedure

The docking station frees the docking port

Spacecraft informs that it wishes to leave the orbit

Inform spaceship obj mgr that undocking has finished and docking/undocking resources have been released

SpacePort Docking and Undocking Procedures (Orbit Resource not Available)									
space		space port							EventHelix.com/EventStudio 2.0
spacecraft		central proc							
pilot	auto dock	broadcast mgr	spaceship obj mgr	spaceship obj	docking	undocking	orbit allocator	docking allocator	05-Jul-03 16:41 (Page 4)



Spacecraft receives the standard AirDock broadcast from SpacePort 9000

The pilot of the spacecraft is notified about the availability of the docking station

Pilot requests a docking. The station to dock to is specified

A docking request is sent out. The frequency for sending the message was obtained from the broadcast

Spaceship object manager uses the spacecraft number to find that it currently has no spaceship object assigned to handle this spacecraft. So it creates a spaceship object to handle the request

The docking request is passed to the newly created object

Spaceship Obj checks if sufficient orbit resources are available to handle this docking request

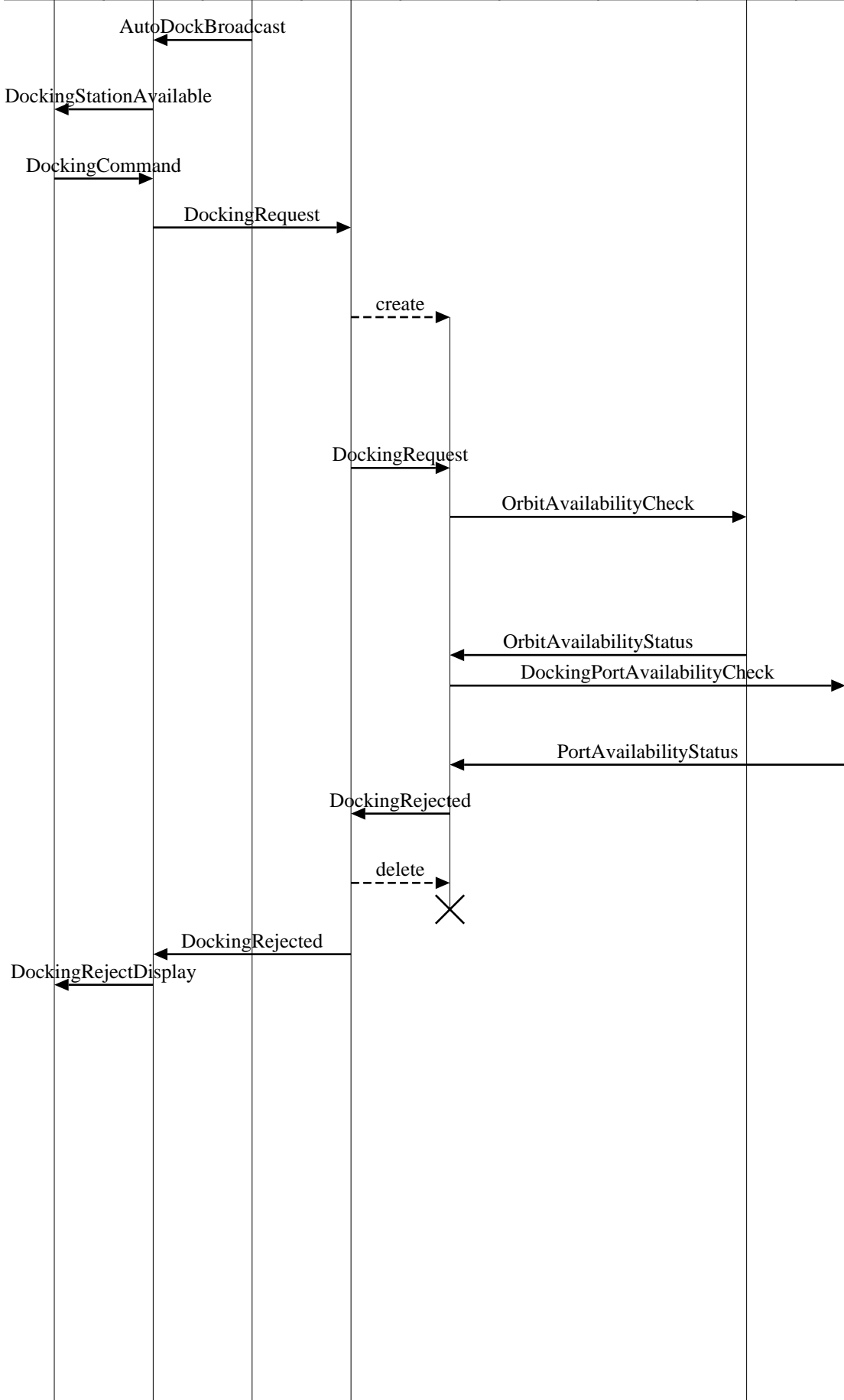
LEG: No Orbit Resource Available

No orbit can be provided

Send the rejection back to the spaceship obj mgr so that it can delete this object

The docking request has been rejected, so inform the pilot and await further action

SpacePort Docking and Undocking Procedures (Docking Resource not Available)									
space		space port							EventHelix.com/EventStudio 2.0
spacecraft		central proc							
pilot	auto dock	broadcast mgr	spaceship obj mgr	spaceship obj	docking	undocking	orbit allocator	docking allocator	05-Jul-03 16:41 (Page 5)



Spacecraft receives the standard AirDock broadcast from SpacePort 9000

The pilot of the spacecraft is notified about the availability of the docking station

Pilot requests a docking. The station to dock to is specified

A docking request is sent out. The frequency for sending the message was obtained from the broadcast

Spaceship object manager uses the spacecraft number to find that it currently has no spaceship object assigned to handle this spacecraft. So it creates a spaceship object to handle the request

The docking request is passed to the newly created object

Spaceship Obj checks if sufficient orbit resources are available to handle this docking request

LEG: Orbit Resource is Available

Orbit resources are available

LEG: No Docking Ports Available

No docking port can be provided

Send the rejection back to the spaceship obj mgr so that it can delete this object

The docking request has been rejected, so inform the pilot and await further action