

EventStudio Sequence Diagram Designer Screenshots

EventStudio screenshots have been reorganized as a slideshow. The screenshots cover:

- Creation of a scenario project
- Definition of a sequence diagram
- Definition of a collaboration diagram

 <http://www.eventhelix.com/EventStudio/Screenshots/>

POP3 Sequence Diagram

This tutorial explains the operations of a POP3 (Post Office Protocol) e-mail exchange via a sequence diagram. All the message interactions between the POP3 client and server for retrieving one e-mail message from a POP3 mailbox have been described.

The message flow described here corresponds to the following communication between a POP3 client and server:

```
Server: +OK X1 POP3 Server pop3.anydomain.com
Client: USER john.doe@anydomain.com
Server: +OK send your password
Client: PASS abcxyz
Server: +OK maildrop locked and ready
Client: STAT
Server: +OK 1 1317
Client: UIDL
Server: +OK 1 messages (1317 octets)
1 390953946
.
Client: LIST
Server: +OK 1 messages (1317 octets)
1 1317
.
Client: RETR 1
Server: +OK 1317 octets
Server: E-mail contents
.
Client: DELE 1
Server: +OK msg deleted
Client: QUIT
Server: +OK POP3 Server saying Good-Bye
```

 <http://www.eventhelix.com/RealtimeMantra/Networking/POP3.pdf>

FTP Sequence Diagram

Here we explore the sequence of interactions in a typical FTP (File Transfer Protocol) session. The example here illustrates the use of multiple TCP connections by FTP. We will cover how FTP establishes a telnet TCP connection (TCP Port 21) to control the overall flow of the FTP transfer. Then we examine the use of TCP Port 21 for establishing TCP connections for directory transfer and file retrieval.

The complete sequence diagram can be divided into the following steps:

1. DNS Query to obtain the IP address for the FTP Server
2. FTP Telnet connection setup and login. (USER and PASS commands)

3. Obtaining a directory listing (PORT and LIST command)
4. Changing directory (CWD command)
5. Downloading a file using FTP get (PORT and RETR command)

 <http://www.eventhelix.com/RealtimeMantra/Networking/FTP.pdf>

GPRS Attach and PDP Context Activation Call Flow Diagrams

We explore the sequence of interactions involved in a GPRS terminal attaching to the network. The combined attach and PDP context activation of a Class B GPRS terminal will be covered here. The following steps are covered:

1. The terminal initiates the attach procedure after power on. The message contains the previously used TMSI.
2. After completing the Attach Procedure, the SGSN now informs the Home Location Register (HLR) about the new location of the GPRS mobile.
3. The mobile had initiated a combined attach, so the SGSN also updates the location information at the MSC-VLR that will handle the voice calls.
4. The GPRS mobile now initiates the PDP context activation procedure to obtain the IP address for the device. The Access Point Name (APN) specified by the service provider is passed as a parameter.

 http://www.eventhelix.com/RealtimeMantra/Telecom/gprs_attach_pdp_sequence_diagram.pdf

GPRS Attach and PDP Context Activation Summary Call Flows

We have already explored the sequence of interactions involved in a GPRS terminal attaching to the network. Here we discuss summary sequence diagrams for attach and PDP context activation of a Class B GPRS terminal. The following summary documents are covered:

- Interfaces with the SGSN where the UT is attaching.
- UT interfaces in GPRS Attach and PDP Context Activation

 http://www.eventhelix.com/RealtimeMantra/Telecom/gprs_attach_pdp_new_sgsn_interface_sequence_diagram.pdf

 http://www.eventhelix.com/RealtimeMantra/Telecom/gprs_attach_pdp_ut_interface_sequence_diagram.pdf

Publish-Subscribe Design Pattern

While developing embedded system, one frequently encounters a situation where many entities are interested in occurrence of a particular event. This introduces a strong coupling between the publisher and subscriber of this event change notification. Thus whenever a new entity needs the information, code for the publisher of the information also needs to be modified to accommodate the new request.

 http://www.eventhelix.com/RealtimeMantra/Patterns/publish_subscribe_patterns.htm