

## Lesson 10 Outline – *Emerging Technology*

- I. Evolution of CGI
  - A. There are several drawbacks to CGI
    1. State-less
    2. Slow (primarily due to the script being restarted each time it is called)
    3. Limited functionality – CGI can only act as “responder”
  - B. Various approaches have addressed one or more of these problems, with varying degrees of success.
    1. ISAPI/NSAPI – write scripts directly to the server API; this is much faster but not very portable
    2. FastCGI
      - a. allows you to keep the script running in the background until it’s needed
      - b. must be integrated into the server
      - c. language independent
    3. mod\_perl
      - a. integrates the perl interpreter into the web server in order to reduce the overhead of starting the interpreter each time a (perl) CGI is called
      - b. provides access to more server functions than traditional CGI, such as user authentication (this can be used to do something like hook the .htaccess based authentication to a password database instead of the normal .htpasswd file)
      - c. unique to Apache web servers (Microsoft IIS has a similar feature)
    4. Combine client-side techniques with CGI – this is a good solution but does have limitations
  - C. Even so, CGI continues to thrive and is widely used. None of the above alternatives has dominated the industry at this point.
- II. Languages, tools and platforms
  - d. Perl has had a stronghold on CGI scripting for some time, but PHP is gaining momentum.
  - e. The trend is definitely toward open source tools – primarily Linux, Apache, MySQL, and Perl/PHP – although the Microsoft-centric solutions still have a strong presence.
- III. ECommerce futures
  - A. Hacking (actually “cracking”) is becoming more of a reality, so eCommerce security is taking center stage. Much like “privacy policies” are the current vogue, I predict “security policies” will be ubiquitous soon.
  - B. The traditional method of encrypting credit card transactions – SSL – is an incomplete solution since it only covers a portion of the transaction. The SET standard put forth by Visa and Mastercard was supposed to be a more complete approach, but it has yet to really catch on.