

# New Enhanced Security Protocols for GPS NTP Server



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# Contents

- HTTP Security Protocol
- Secure Shell
  - SSH : Secure Shell
  - SFTP : Secure FTP
- TCP MD5
- Password Security

# HTTP Security Protocols

- Update to the latest version
- Support HTTPS
- Support WebSocket
- Support PHP / FastCGI

# Security Shell

- Support SSH Server
  - Provide the same interface with telnet
- Support SFTP Server
  - File upload and download with secure interface

# TCP MD5

- Support RFC2385 TCP MD5 Signatures

- TCP Option 19
- Linux Style setsockopt()

```
struct tcp_md5sig {
    struct sockaddr_storage tcpm_addr;
    u_short                __tcpm_pad1;
    u_short                tcpm_keylen;
    u_int                  __tcpm_pad2;
#define TCP_MD5SIG_MAXKEYLEN    80
    u_char                 tcpm_key[TCP_MD5SIG_MAXKEYLEN];
};
```

- Set default md5 key

# Password Security (1/2)

- Password Policy
  - At least eight characters long
  - Mixed-case (At least eight two Large and Small characters)
  - At least two special characters
- System Lock
  - Lock the system if password fails after retry
  - Change the Retry Count and Lock time

# Password Security (2/2)

```
!  
service enhanced-password
```

Enable Enhanced Password Policy

```
!  
line console  
exec-timeout 0 0  
login retry 5  
lock-timeout 30 0
```

Set retry count and lock time for console

```
!  
line vty  
login retry 5  
lock-timeout 60 0
```

Set retry count and lock time for telnet/ssh



# Thank you!

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