

Integrated Security For SNMP-Based Management

Wes Hardaker

Sparta, Inc.

<hardaker@sparta.com>

May 24, 2004

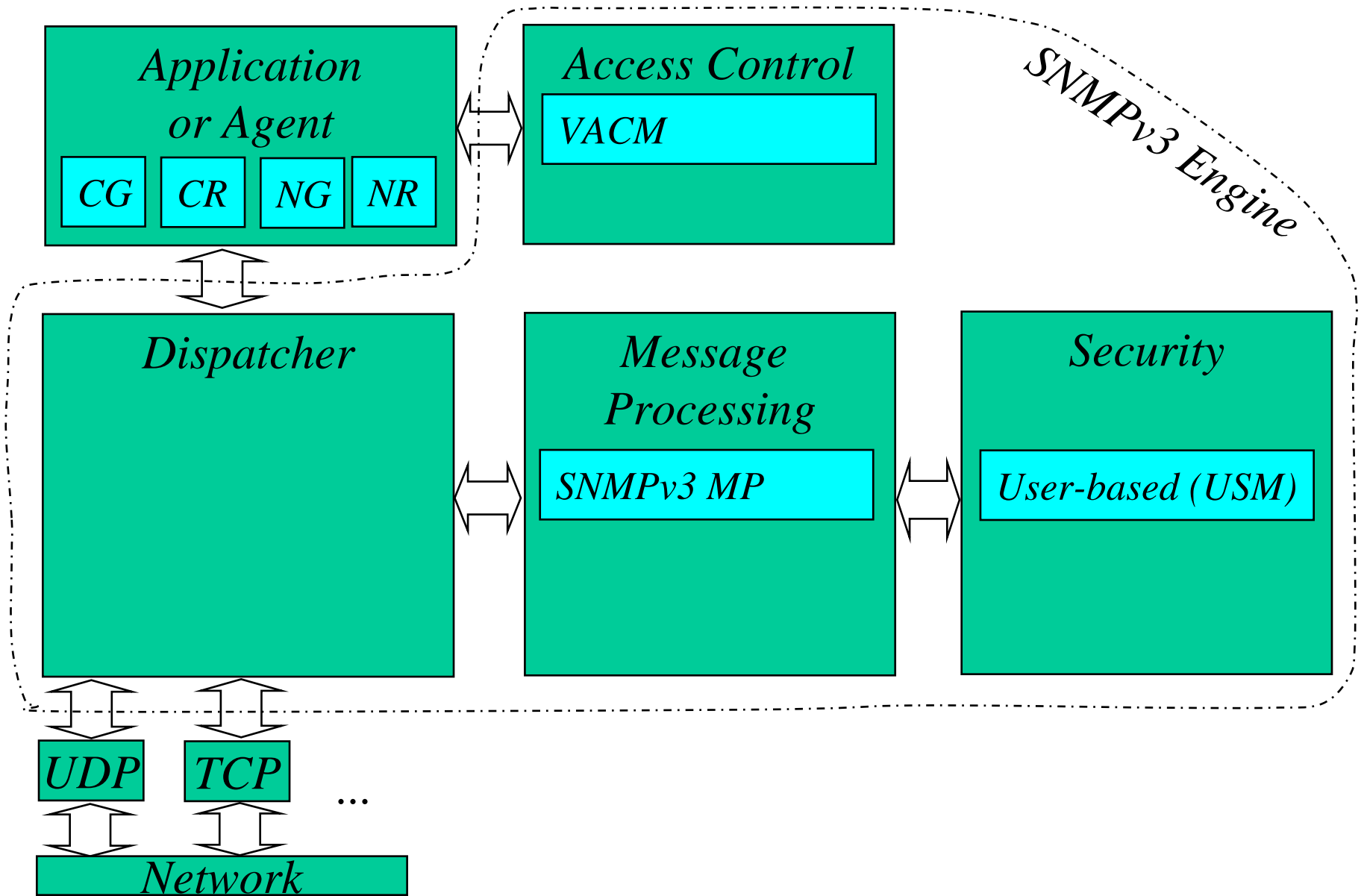
Overview

- This will be an interactive session!
(Get ready to raise your hands)
- Problem Space
- Solution Space
- Operator Requirements
- Questions & Answers

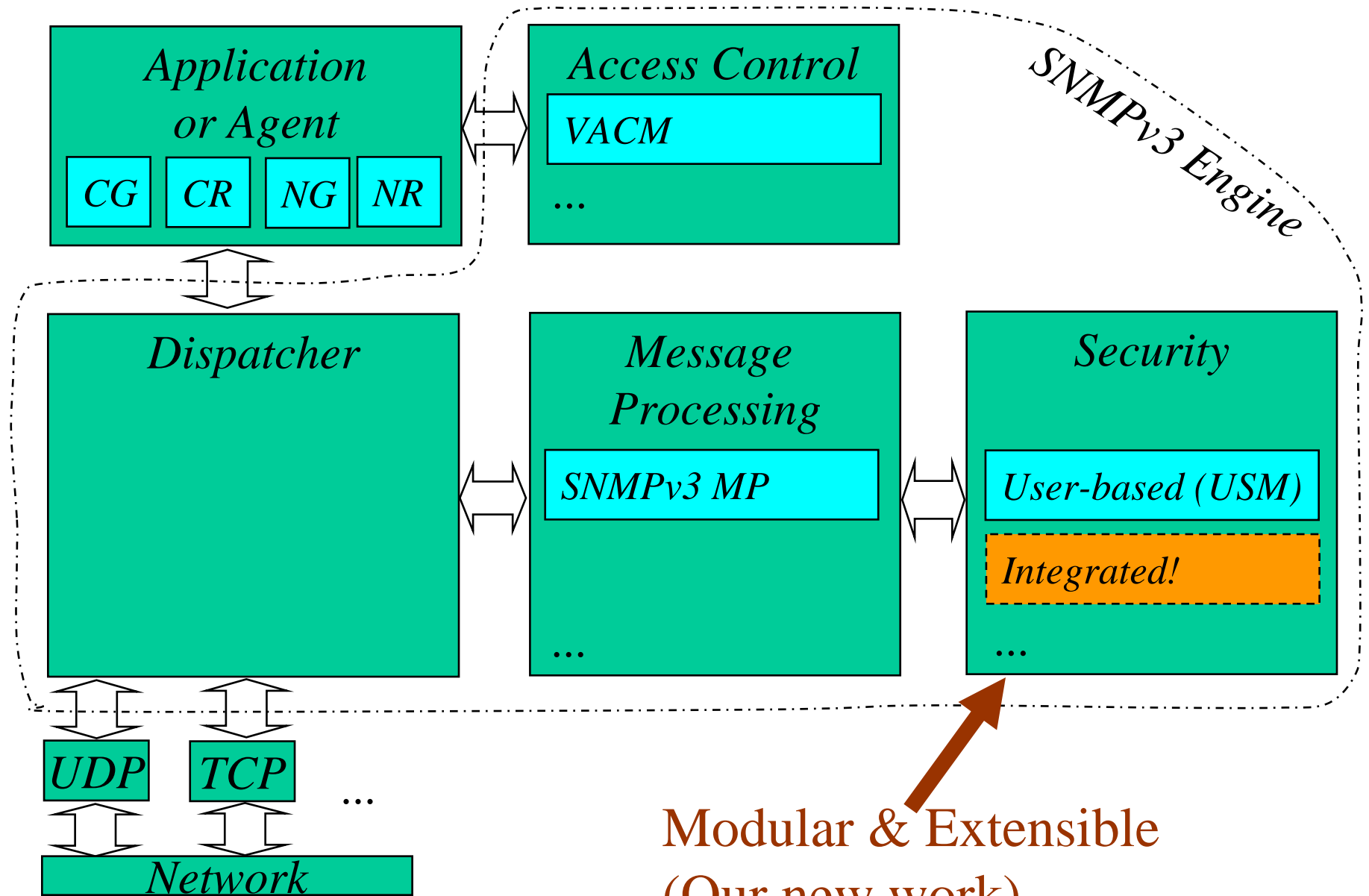
SNMPv3 Problems

- ..., **but**: SNMPv3 users are SNMP specific
 - USM: User-based Security Model
 - Setup, user management, and Key distribution and updates are difficult using USM
 - Doesn't use existing security infrastructures like Radius, Accounts, Kerberos, TACACS+, SSH Identities, X.509 Certificates, ...
 - Thus limited in usefulness and deployability

SNMPv3: Architecture



SNMPv3: Architecture



Goal: Integrated Security

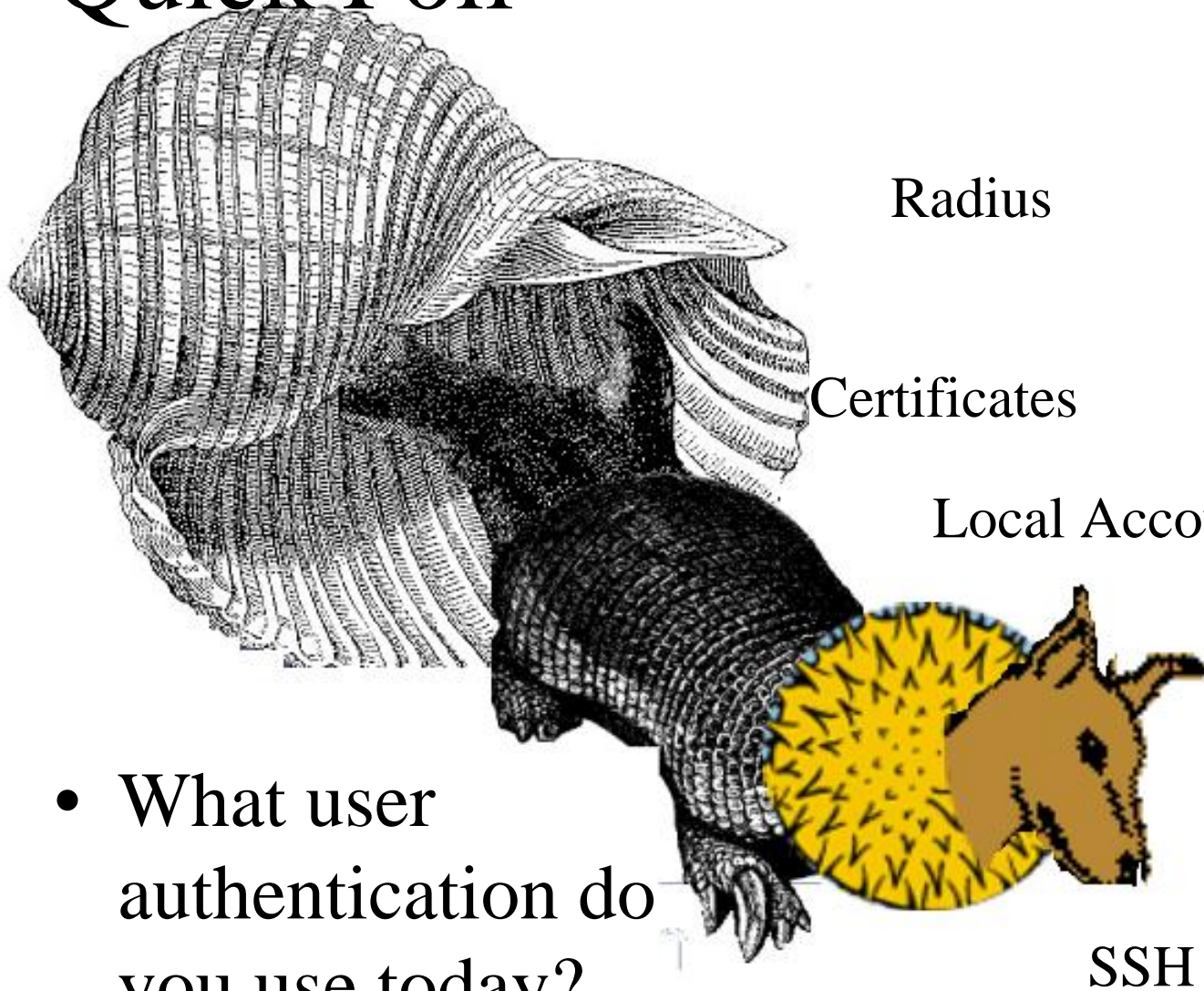
- SNMPv3's security component is extensible
 - It is easy to create a quick improvement
 - (This work will **NOT** be SNMPv4)
- Goal: add a new module with an integrated approach allowing you to use existing users.
 - Small & easy to implement addition == Fast
 - Ties to existing user authentication systems
- Requirements: **YOUR INPUT**
 - This work will not go forward unless **YOU** think it will helpful.

Quick Poll

(Here's where you raise your hands)

- How many people use SNMPv3 today?
- How many people think its too hard to set up the user authentication?
- Would you use SNMPv3 if you could use your existing user account infrastructure?

Quick Poll



- What user authentication do you use today?

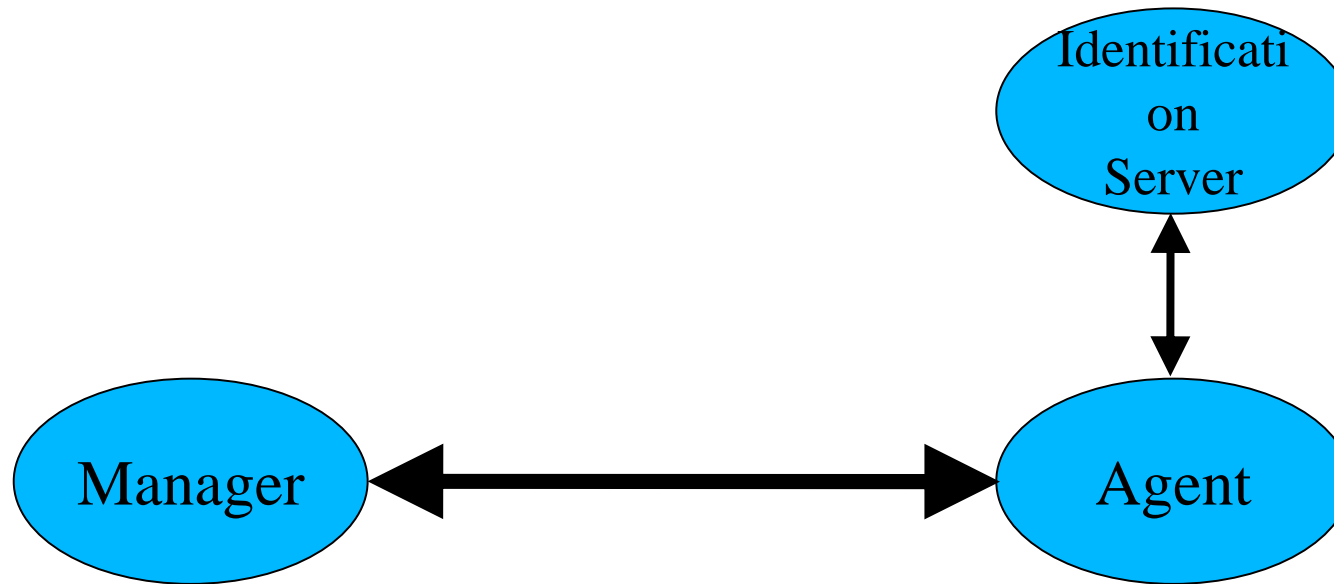
Identification Schemes (which do you want?)



Used for:

- Local Accounts
- SSH Public-key Identities
- (Current SNMPv3/USM model)

Identification Schemes (which do you want?)

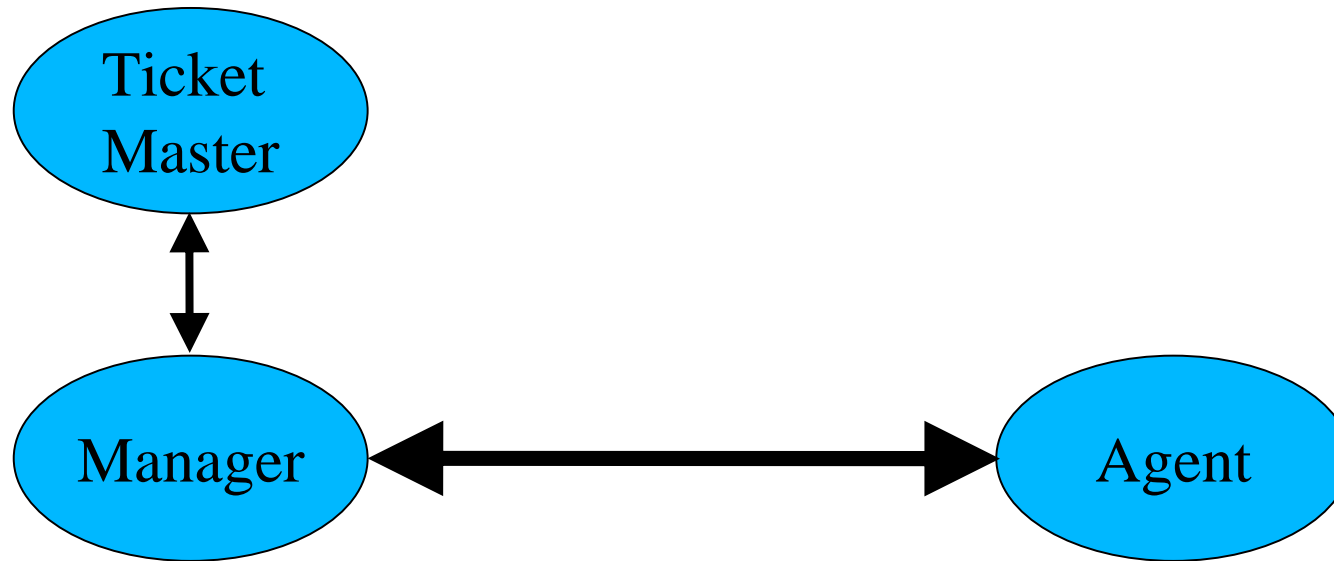


Used for:

- Radius
- TACACS+

Identification Schemes

(which do you want?)

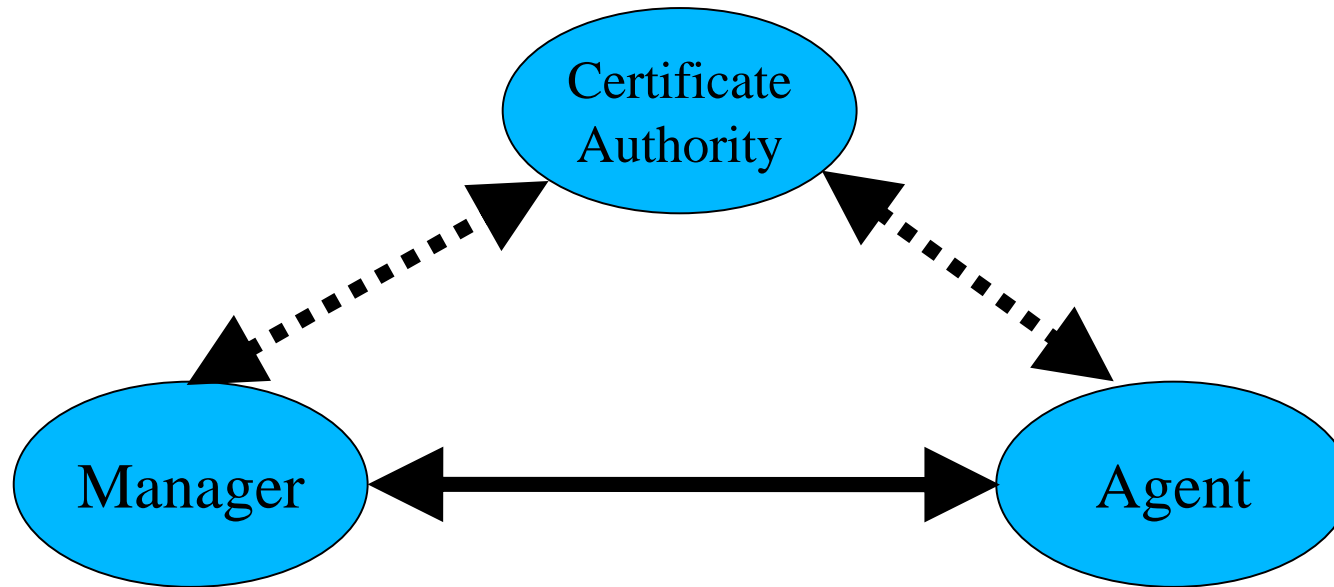


Used for:

- Kerberos

Identification Schemes

(which do you want?)



Used for:

- PKI deployments (CA use is optional on both sides)
(EG usage: TLS & SSL)

The Road Ahead

- Potential candidates already exist:
- Session-Based Security Model (SBSM)
 - Extensible authentication system
 - Even supports compression, many other +s
 - draft-hardaker-snmp-session-sm-01.txt
- Kerberos based
 - Implemented already in Net-SNMP ≥ 5.0
 - draft-hornstein-snmpv3-ksm-02
- USM+ (Not yet published)

Questions & Answers

- Contact Information:
 - Wes Hardaker <hardaker@sparta.com>
 - David Perkins <dperkins@snmpinfo.com>
- Mailing List:
 - <https://www.machshav.com/mailman/listinfo/sbsm>
- Web Sites:
 - SBSM: <http://sbsm.hardakers.net/>
 - **Electronic SURVEY on this site!**
 - **Please please please fill it out!**