

# SECURITY ARCHITECT

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## SUMMARY

The Security Architect will provide direction and definition of policy affecting overall system integration of conditional access, Digital Rights Management (DRM), copy protection and OCAP security mechanisms within CableLabs projects. Responsibilities include conceptual development, planning, specification writing, implementation, test plan development, analysis of results, and dissemination of conclusions from research. This individual will direct security focus teams, security reviews and analysis, and manage consultants and contractors as needed. The Security Architect will apply the results of such analysis work to current CableLabs specifications through the ECR process. This individual will also support CableLabs cross-project security efforts.

## FUNCTIONS

- Working in conjunction with our member community, develop and apply expertise in existing and emerging security protocols and mechanisms, including SSL, RSA, MD5, SHA-1, AES, IPsec, DES, Diffie-Hellman and Elliptic-Curve algorithms.
- Provide technical leadership in areas such as Content Protection, DFAST, DTCP, HDCP, Conditional Access encryption/decryption, DRM, signaling encryption and authentication, key scrambling and key exchange technologies, privacy, device and subscriber authentication and authorization, PKI architectures, System Renewability Messages (SRMs), Certificate Revocation Lists (CRLs), Selective Denial of Service mechanisms and databases (like Association Database), and network interconnection authentication and encryption.
- Leads subcontract efforts to get independent analysis of various security technologies and/or CableLabs business and technical solutions.
- Proactively identify key areas of existing and emerging security technology of interest to CableLabs, and analyze in light of CableLabs feature, cost, and time to market requirements. Support the requirements team with respect to security on emerging technology analysis and application to new CableLabs specifications.
- Periodically track digital cable and digital satellite hacker community for new developments, countermeasures and overall security assurance level of both industries.
- Manage vendor teams within CableLabs to develop and maintain the security specifications needed for all releases of the CableLabs specifications and extensions; develop relationships with key vendor and member representatives to assist in meeting these objectives.
- Negotiate consensus among members and vendors to establish & maintain secure access and control of content within existing and future CableLabs specifications.
- Communicate to member companies and the industry-at-large, the progress and outcomes of the security aspects of various CableLabs project. Write reports and articles for peer-review journals and trade publications; make presentations at conferences, industry forums and workshops or otherwise communicate findings by other means as appropriate.
- Participation in inter-project security to identify and implement cross-platform solutions of security issues arising in connection with CableLabs projects.
- Manage and moderate an email discussion list on various CableLabs Security aliases that are accessible to the MSOs.
- Perform other duties as assigned.

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## REPORTS TO

Vice President, Security

## CONTACTS

Cable Company executives, telecommunications service provider executives, academic institutions, vendor executives and scientists, CableLabs staff, Board and TAC industry committees.

## QUALIFICATIONS

An educational background in computer science and data networking architectures [BSCS, BSEE, or MSCE/MSEE] is required. A strong aptitude for mathematics is desired to properly analyze emerging encryption and authentication algorithms in light of theft of service, denial of service, and media privacy scenarios. DRM/Content Protection experience is required/highly desirable. Experience and/or academic exposure to Conditional Access Security is desirable. This position requires a strong self starter that is a fast learner in the areas of protocols and network related technologies. Excellent management, interpersonal, communications and planning skills required. Willing to travel as needed.