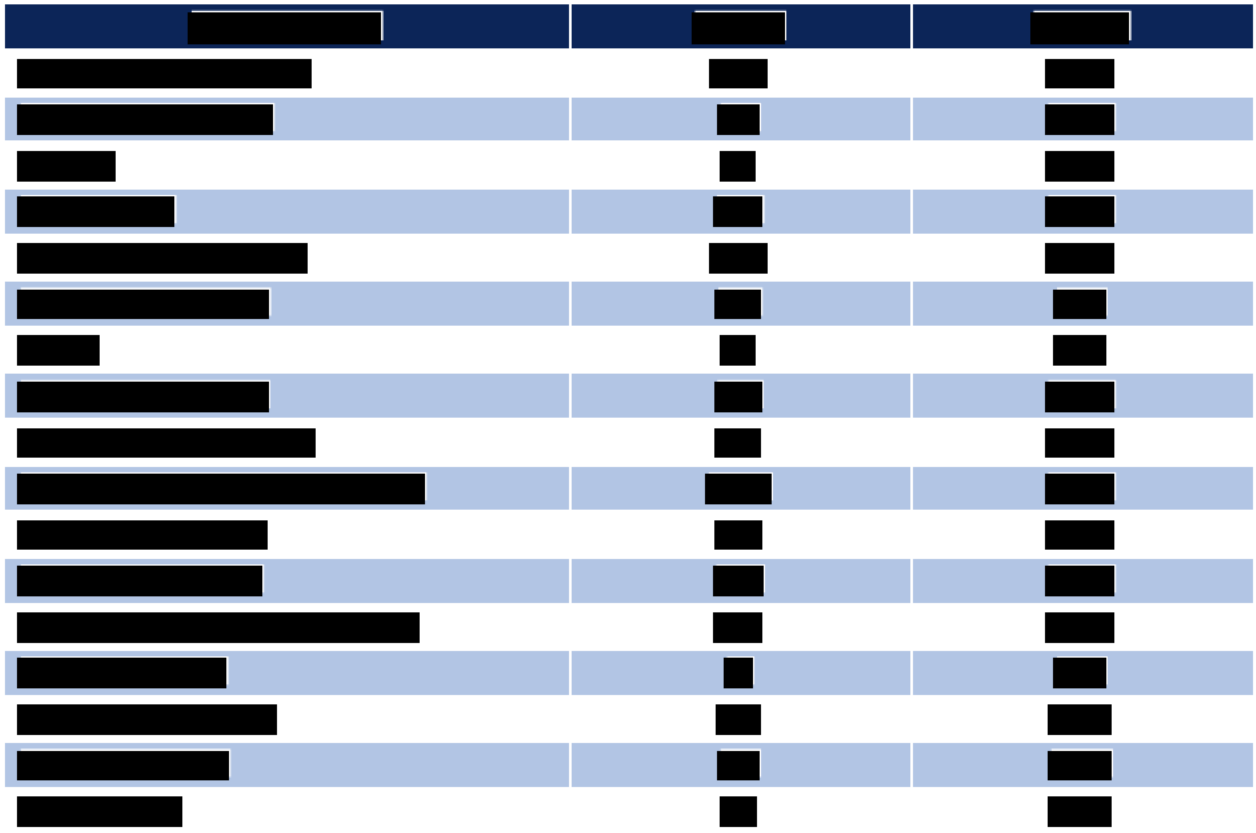
ATTACHMENT 4 EIS SERVICES VERIFICATION TEST PLAN

[L.30.2.4, M.2.2(4), E.2.2]

A4.1 INTRODUCTION

This Attachment presents MetTel's Services Verification Test Plan, which is based on the requirements defined in Section E.2.2 and includes test scenarios, test cases, test data sets, and acceptance criteria for each of the proposed EIS services defined in Section C.2.



A4.2 METTEL'S TESTING METHODOLOGY

A4.2.1 General Approach

The objective of MetTel's Services Testing is to ensure that services as delivered operate properly, meet end-to-end performance requirements, and include all ordered features and functions. To accomplish this, the Advanced Services Team uses a consistent, repeatable process for testing all services. [redacted]

[redacted]

Exhibit A4-2. MetTel's Services Testing Process

[redacted] We have extensive experience performing service testing across our entire product suite and customer base.

The testing process begins with a review of the Task Order to determine the services and features that are associated with the specific service. Any special or unique requirements specified in the Task Order are also noted. If special testing procedures are requested by the Task Order, the testing process for the service is modified accordingly.

The installed Service Related Equipment (SRE) is then reviewed to ensure that it conforms to SREs specified in the Task Order. Next, the configuration of the SREs is verified to ensure that it is correct. Any configuration errors are corrected and documented during this process.

Following completion of this step, access is reviewed to ensure conformity to the Task Order in all respects including protocols, bandwidth, service features, security requirements, diversity, etc. Tests are then performed on access to ensure it is fully operational and meets the functional requirements of the specified in the Task Order. We supply all necessary test equipment including data terminals, load boxes, test cables, and any other hardware and software required to complete all aspects of EIS services verification testing.

The next step is to execute the service test(s) specified in the sections below, including the application of the specified test cases for that service. In addition to verifying basic features and functionality, compliance with specified KPIs for the service is verified. Then the ATO for FISMA-related security requirements is verified.

If the service passes all test criteria, the results are documented in the EIS Services Verification Testing Report, which shows that the tests for the service were completed successfully and the required certifications are in place. The Verification Testing Report is submitted to the Government for acceptance and approval.

If the service fails one or more acceptance tests, the services verification testing team determines the source of the problem. Such difficulties are usually caused either by software configuration or hardware problems. If the problem is determined to be hardware related, corrections are made to its configuration, cabling, plug-ins, or other

factors as needed. The services tests are then repeated.

To determine if the problem is software configuration related, the network segments are isolated. Network tests are then conducted on the first segment. If that segment passes, tests are then performed on the next segment, etc. until the network problem has been identified. It is then corrected and the software is reconfigured. When this has been completed, the overall service tests are repeated.

If all network segments are tested and no problems are identified, the problem is referred to MetTel's Engineering Department. This could occur in cases where network segments all pass the required KPIs but the accumulated jitter, packet loss, and/or latency cause the end-to-end network tests to fail. Equipment difficulties could also cause testing failures.

Depending on the circumstances, the service may require re-engineering, modification to the SREs, configuration changes, or other action to enable it to pass services verification testing. In all such cases, resolving the underlying problem is given top priority so it can be resolved and the service turned over to the customer quickly. Typically, this is accomplished within 72 hours.

Throughout the EIS services verification testing process, Government representatives may observe all or part of our testing procedures.

Test scenarios, test cases, and acceptance criteria for each proposed service are presented in the sections below. When new services are added during the life of the EIS contract, new test approaches, test cases, and acceptance criteria are developed as needed and submitted to the Government for approval.

A4.2.2 Test Data Sets

We execute the test cases defined in this EIS Test Plan using test data sets developed that include real-world service conditions and actual locations. The content of these data sets varies depending on the service being tested. Using these data sets, we test all services and service features proposed in the Task Order.

A4.2.3 Services Acceptance

We understand that once verification testing is successfully completed, the Government may complete acceptance testing based on the acceptance criteria defined in the EIS Test Plan. Our acceptance test verifies satisfactory end-to-end service

performance and proper operation of all ordered features and functions. We understand that performance is considered satisfactory when services, equipment, systems, and associated features and functions perform as specified in the contract and Task Order. We do not assign an effective billing date to an EIS Service until the Agency accepts it in accordance with the agreed-upon acceptance testing procedures described in the EIS Test Plan.

We understand that the Government reserves the right to perform additional tests to confirm proper operation of a delivered EIS service as defined by the Task Order. If the Government does not report a problem to MetTel during this test period, the effective billing date is the completion date on the SOCN. We do not begin billing for services if the Government rejects the services within 3 days of receipt of the SOCN. A longer period for test and acceptance may be specified in the Task Order. We issue a new SOCN for services after correcting the reasons for rejection.

We understand the service is considered accepted if the Government does not reject the service within the acceptance period defined above. We also understand that if the Government rejects the service, it may at its option:

1. Direct MetTel to repeat the procedure outlined above
2. Withdraw the service from acceptance testing
3. Direct MetTel to facilitate the return of the services to their original provider (for services transitioned or migrated from another contractor's network)
4. Request a replacement of the service (in whole or in part)
5. Cancel the service order without penalty

We also understand that:

Exhibit A4-2. Outcomes of Testing Results

#	Description
1.	If the Government exercises any of these options as a consequence of unacceptable acceptance testing results, all expenses incurred by the Government are borne by MetTel.
2.	If the Government elects option 1 above, MetTel immediately initiates corrective actions to remedy the problem reported on the trouble ticket and keeps the Government informed of progress. In such cases, the Government reserves the right to exercise option 2, 3, 4, or 5 at any time.
3.	If the Government elects any of the options above other than option 1, all expenses incurred by the Government, including recurring charges and Non-Recurring Charges (NRC) to return services to the previous network configuration, are borne by MetTel.

#	Description
4.	In cases when the Government cannot successfully complete acceptance testing due to circumstances beyond the control of MetTel, MetTel notifies the Government of the details surrounding the deficiencies and the steps MetTel has taken to overcome the deficiencies.
5.	These cases are discussed between the Government and MetTel. On a case-by-case basis, the GSA CO or the OCO may choose to waive the acceptance testing or extend the testing period.
6.	Waiver of the acceptance testing may be considered in those instances when MetTel has demonstrated that the problems encountered are not the fault of MetTel, and the Government has determined that MetTel has taken all reasonable actions to correct all problems.
7.	The waiver issued by the GSA CO or the OCO specifies the grounds for the waiver. If the waiver is not granted, MetTel is obligated to continue to attempt correction of the deficiencies encountered to successfully accomplish the acceptance testing.

A4.2.4 Deliverables

Deliverables that are provided as part of Services Verification Testing include:

- MetTel provides an EIS Testing Report as defined in Section E.2.2.5 within 3 business days of service installation and testing
- As described above, MetTel submits updates to this Services Verification Test Plan for any new services that are added to the contract.

A4.3 TESTING APPROACH AND METHODOLOGY

The testing approach and methodology for each of our proposed services are described below.

A4.3.1 Virtual Private Network Service (VPNS) – Testing Approach and Methodology

Exhibit A4-3. Testing Approach and Methodology

[redacted]

A4.3.2 Ethernet Transport Service (ETS) – Testing Approach and Methodology

A4.3.2.1 Ethernet Private Line Service (E-Line) – Testing Approach and Methodology

Exhibit A4-4. Testing Approach and Methodology

[redacted]

A4.3.2.2 Ethernet Private LAN (E-LAN) Services – Testing Approach and Methodology

Exhibit A4-5. Testing Approach and Methodology

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A4.3.3 Internet Protocol Service (IPS) – Testing Approach and Methodology

Exhibit A4-6. Testing Approach and Methodology

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A4.3.4 Internet Protocol Voice Service (IPVS) – Testing Approach and Methodology

Exhibit A4-7. Testing Approach and Methodology

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A4.3.5 Circuit Switched Voice Service (CSVS) – Testing Approach and Methodology

Exhibit A4-8. Testing Approach and Methodology

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A4.3.6 Colocated Hosting Service (CHS) – Testing Approach and Methodology

Exhibit A4-9. Testing Approach and Methodology

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A4.3.7 Wireless Service (WS) – Testing Approach and Methodology

Exhibit A4-11. Testing Approach and Methodology

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A4.3.8 Managed Network Service (MNS) – Testing Approach and Methodology

Exhibit A4-12. Testing Approach and Methodology

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A4.3.9 Unified Communication Service (UCS) – Testing Approach and Methodology

Exhibit A4-13. Testing Approach and Methodology

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A4.3.10 Managed Trusted Internet Protocol Service (MTIPS) – Testing Approach and Methodology

Exhibit A4-14. Testing Approach and Methodology

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A4.3.11 Managed Security Service (MSS) – Testing Approach and Methodology

Exhibit A4-15. Testing Approach and Methodology

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A4.3.12 Managed Mobility Service (MMS) – Testing Approach and Methodology

Exhibit A4-16. Testing Approach and Methodology

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A4.3.13 DHS Intrusion Prevention Security Service (IPSS) – Testing Approach and Methodology

Exhibit A4-17. Testing Approach and Methodology

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A4.3.14 Access Arrangements (AA) – Testing Approach and Methodology

Exhibit A4-18. Testing Approach and Methodology

[redacted]

A4.3.15 Service Related Equipment (SRE) – Testing Approach and Methodology

Exhibit A4-19. Testing Approach and Methodology

[redacted]

A4.3.16 Service Related Labor (SRL) – Testing Approach and Methodology

Exhibit A4-20. Testing Approach and Methodology

[redacted]

A4.3.17 Cable and Wiring (CW) – Testing Approach and Methodology

Exhibit A4-21. Testing Approach and Methodology

[redacted]

A4.4 TEST CASES

The test cases for each of MetTel's proposed services are described below. All test cases are pass/fail.

A4.4.1 VPNS Service – Test Cases

Exhibit A4-22. Test Cases

A4.4.2 Ethernet Transport Service (ETS) – Test Cases

A4.4.2.1 Ethernet Private Line Service (E-Line) – Test Cases

Exhibit A4-10. Test Cases

[redacted]

* Executed only if the specified functionality is included in the Task Order.

A4.4.2.2 Ethernet Private LAN (E-LAN) Services – Test Cases

Exhibit A4-24. Test Cases

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[redacted]

* Executed only if the specified functionality is included in the Task Order.

A4.4.3 Internet Protocol Service (IPS) – Test Cases

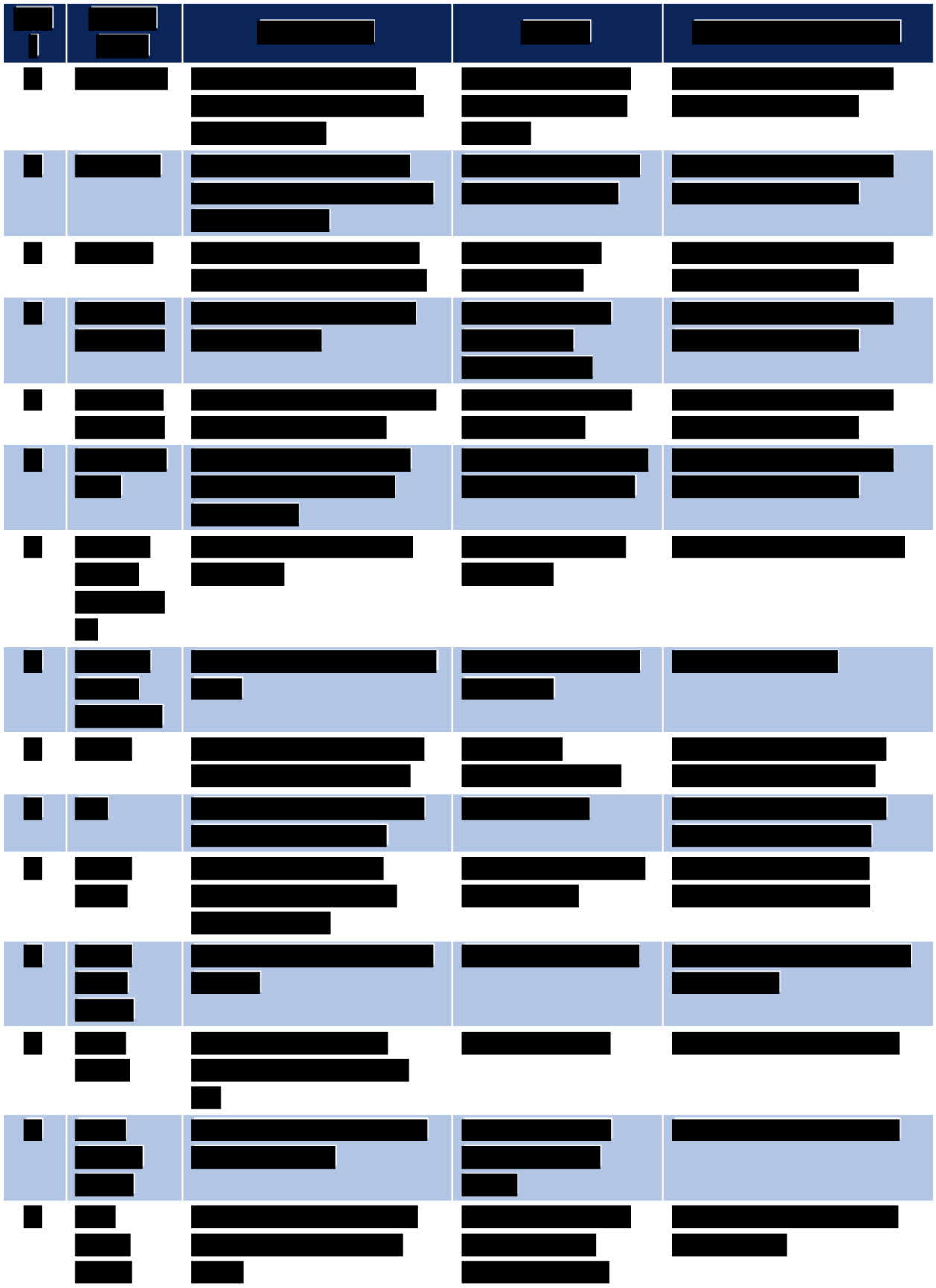
Exhibit A4-25. Test Cases

[redacted]

A4.4.4 IP Voice Service (IPVS) – Test Cases

Exhibit A4-26. Test Cases

[redacted]



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* Executed only if Managed LAN Service is included in the Task Order.

A4.4.5 Circuit Switched Voice Service (CSVS) – Test Cases

Exhibit A4-27. Test Cases

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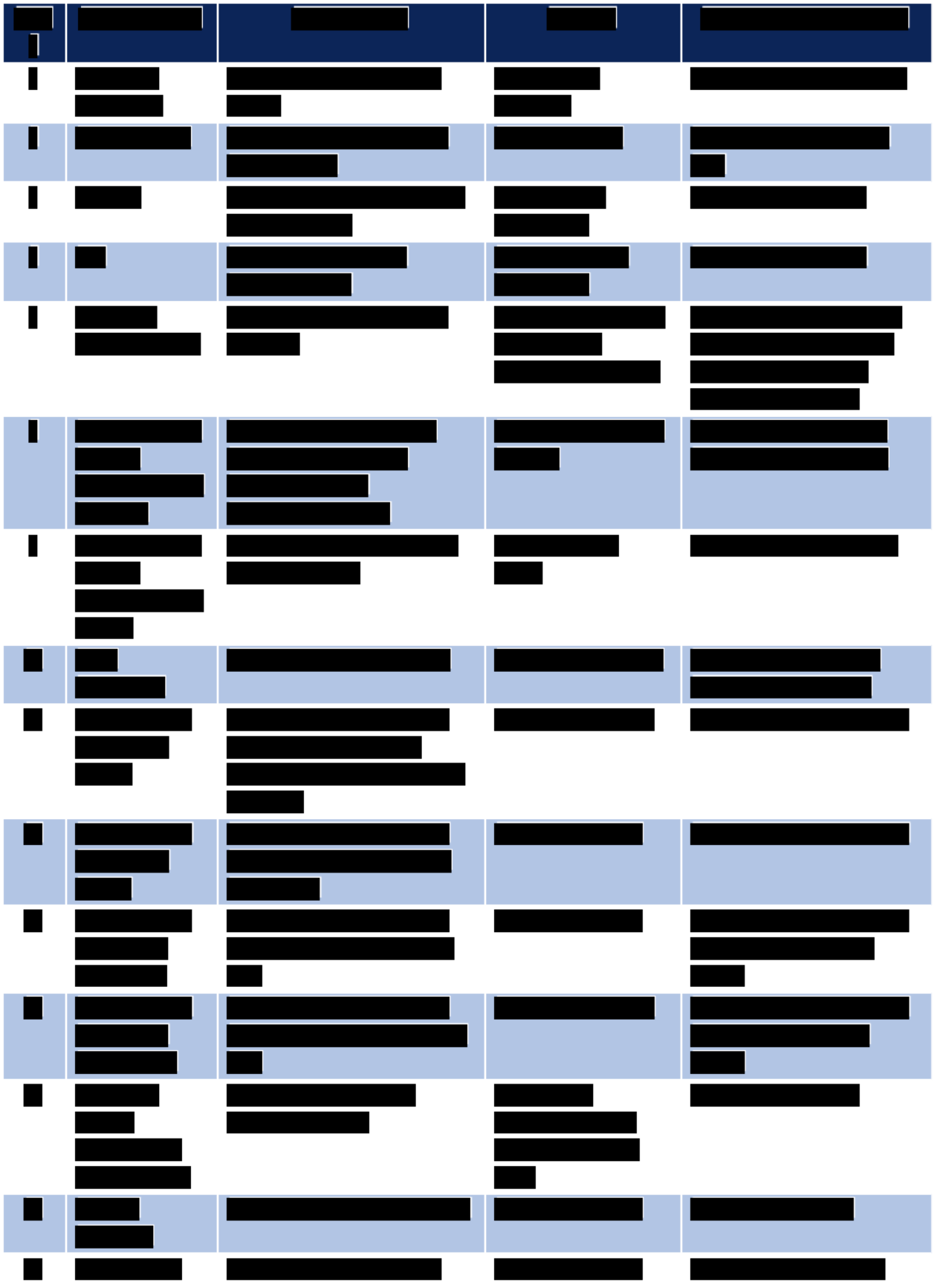

A4.4.6 Colocated Hosting Service (CHS) – Test Cases

Exhibit A4-28. Test Cases

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A4.4.7 Wireless Service – Test Cases

Exhibit A4-29. Test Cases

[redacted]

A4.4.8 Managed Network Service (MNS) – Test Cases

Exhibit A4-30. Test Cases

A4.4.9 Unified Communication Service (UCS) – Test Cases

Exhibit A4-31. Test Cases

A4.4.10 Managed Trusted Internet Protocol Service (MTIPS) – Test Cases

Exhibit A4-32. Test Cases

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A4.4.11 Managed Security Service (MSS) – Test Cases

Exhibit A4-33. Test Cases

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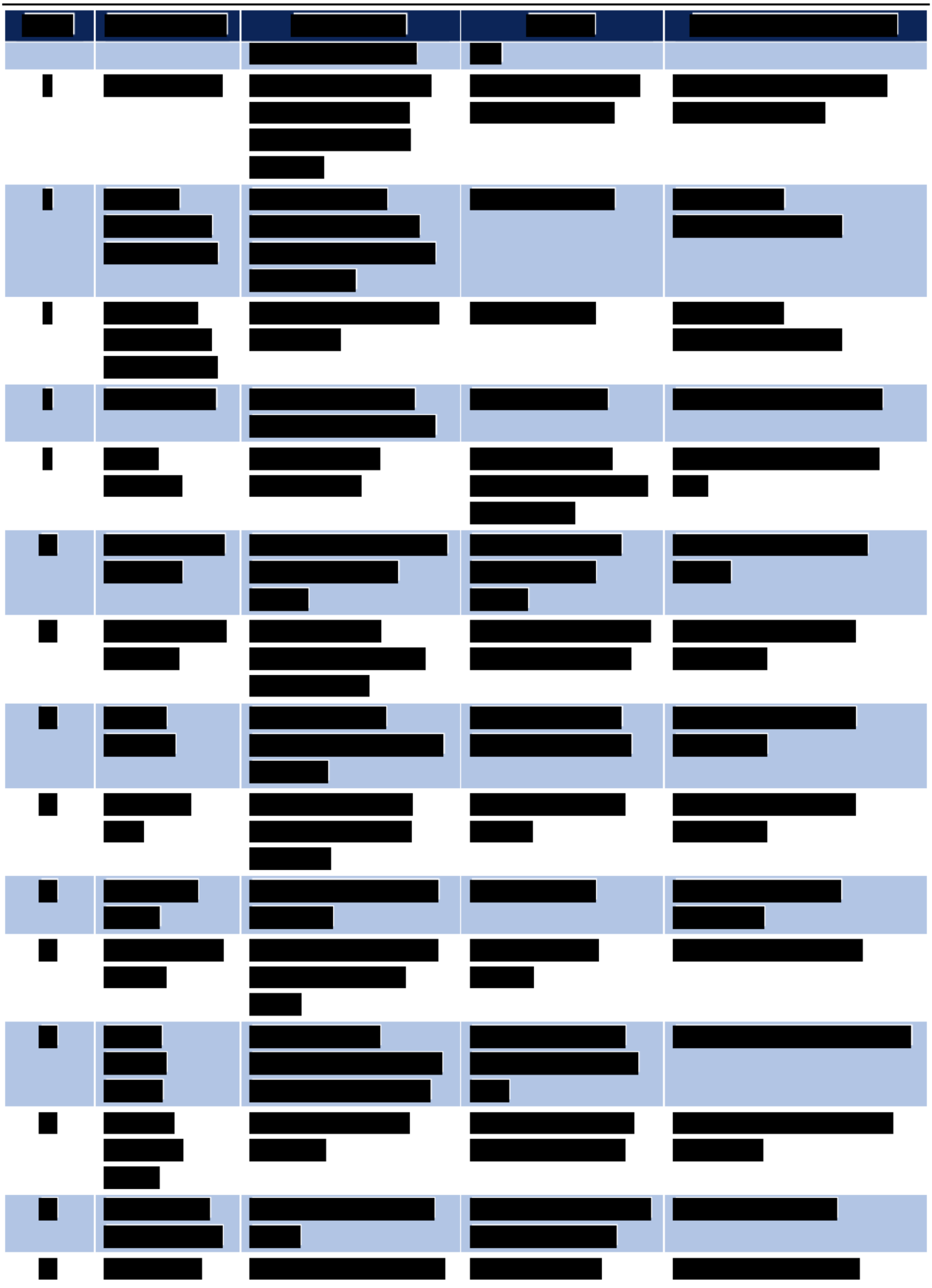
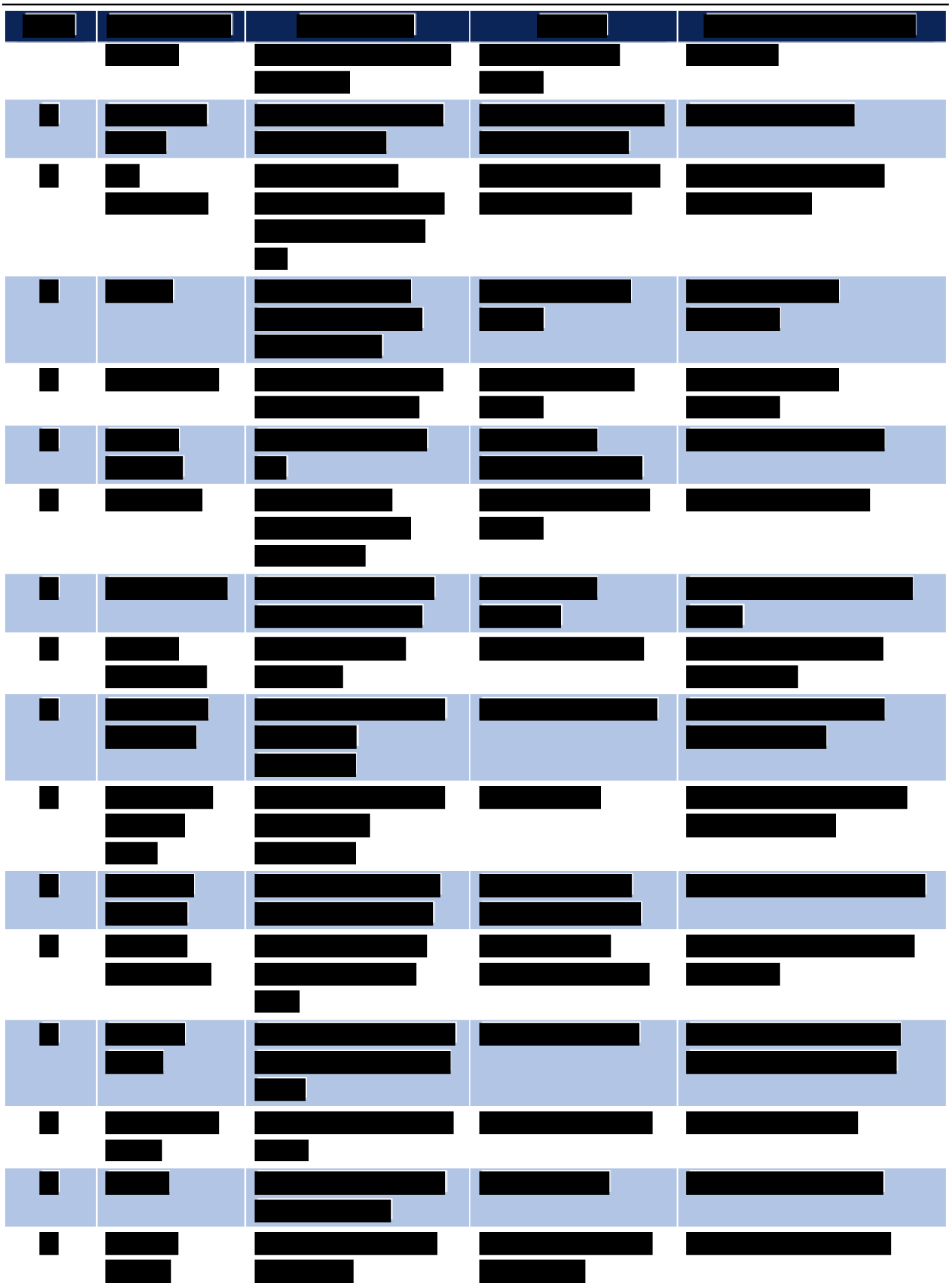
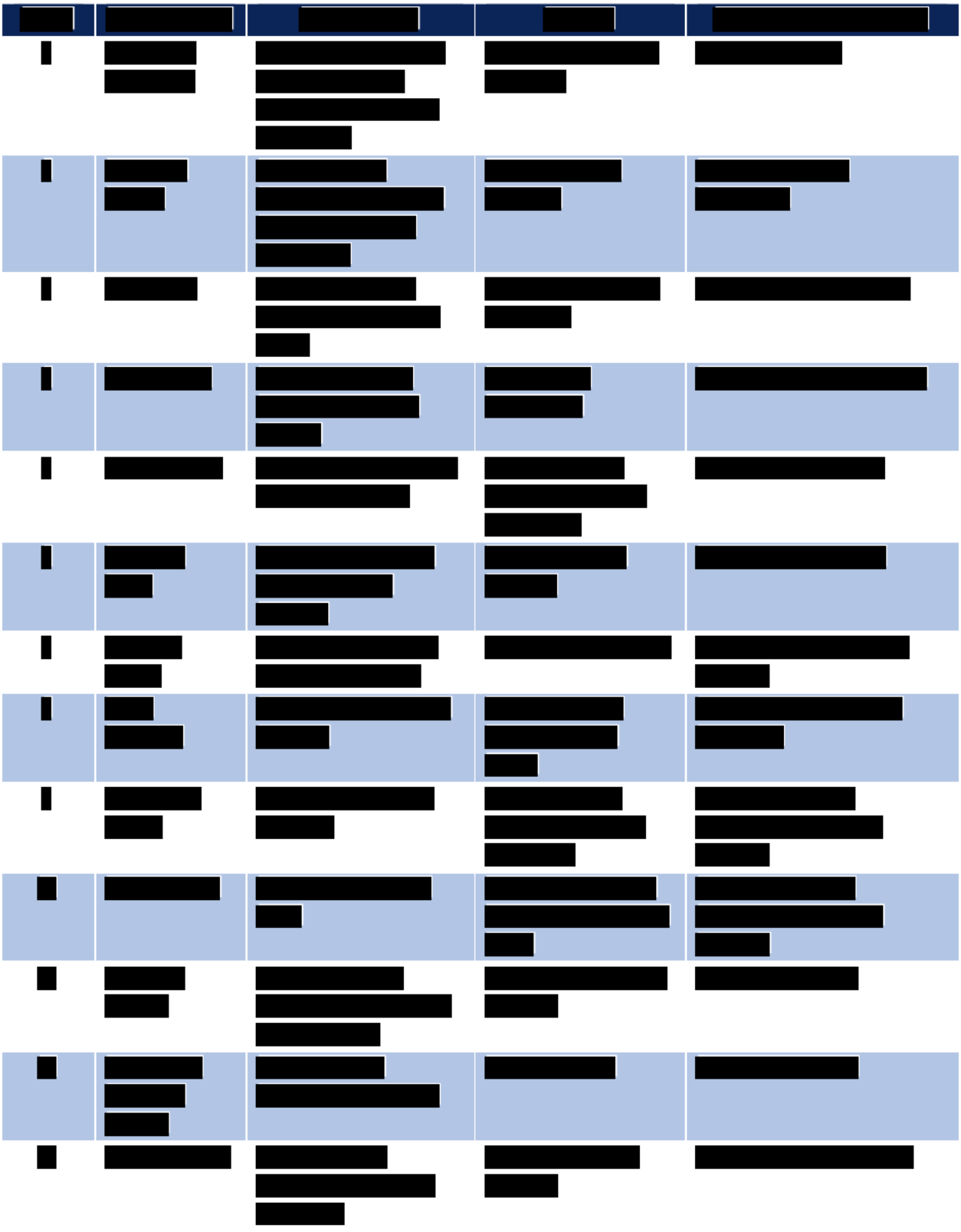




A4.4.12 Managed Mobility Service (MMS) – Test Cases

Exhibit A4-34. Test Cases



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A4.4.13 DHS Intrusion Prevention Security Service (IPSS) – Test Cases

Exhibit A4-35. Test Cases

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