

## [MS-SAMR]: Security Account Manager (SAM) Remote Protocol (Client-to-Server)

This topic lists the Errata found in [MS-SAMR] since it was last published. Since this topic is updated frequently, we recommend that you subscribe to these RSS or Atom feeds to receive update notifications.



Errata are subject to the same terms as the Open Specifications documentation referenced.

Errata below are for Protocol Document Version [V38.0 - 2017/06/01](#).

Errata Published*	Description
2017/07/12	<p>In Section 3.1.1.8.11.3.1, WDIGEST_CREDENTIALS Construction, the UPPER/LOWER function calls were reversed in hashes 2/3, 9/10, 16/17, 19/20, 22/23, 25/26 and 28/29. In addition, the literal string that is passed in hashes 22/23, 25/26 and 28/29 was revised from upper/lower case "DIGEST"/"digest" to simply "Digest".</p> <p>Changed from:</p> <p>Hash1: MD5(sAMAccountName, NETBIOSDomainName, password)            Hash2: MD5(UPPER(sAMAccountName), UPPER(NETBIOSDomainName), password)            Hash3: MD5(LOWER(sAMAccountName), LOWER(NETBIOSDomainName), password)            Hash4: MD5(sAMAccountName, UPPER(NETBIOSDomainName), password)            Hash5: MD5(sAMAccountName, LOWER(NETBIOSDomainName), password)            Hash6: MD5(UPPER(sAMAccountName), LOWER(NETBIOSDomainName), password)            Hash7: MD5(LOWER(sAMAccountName), UPPER(NETBIOSDomainName), password)            Hash8: MD5(sAMAccountName, DNSDomainName, password)            Hash9: MD5(UPPER(sAMAccountName), UPPER(DNSDomainName), password)            Hash10: MD5(LOWER(sAMAccountName), LOWER(DNSDomainName), password)            Hash11: MD5(sAMAccountName, UPPER(DNSDomainName), password)            Hash12: MD5(sAMAccountName, LOWER(DNSDomainName), password)            Hash13: MD5(UPPER(sAMAccountName), LOWER(DNSDomainName), password)            Hash14: MD5(LOWER(sAMAccountName), UPPER(DNSDomainName), password)            Hash15: MD5(userPrincipalName, password)            Hash16: MD5(UPPER(userPrincipalName), password)            Hash17: MD5(LOWER(userPrincipalName), password)            Hash18: MD5(NETBIOSDomainName\sAMAccountName, password)            Hash19: MD5(UPPER(NETBIOSDomainName\sAMAccountName), password)            Hash20: MD5(LOWER(NETBIOSDomainName\sAMAccountName), password)            Hash21: MD5(sAMAccountName, "Digest", password)            Hash22: MD5(UPPER(sAMAccountName), "DIGEST", password)            Hash23: MD5(LOWER(sAMAccountName), "digest", password)            Hash24: MD5(userPrincipalName, "Digest", password)            Hash25: MD5(UPPER(userPrincipalName), "DIGEST", password)            Hash26: MD5(LOWER(userPrincipalName), "digest", password)            Hash27: MD5(NETBIOSDomainName\sAMAccountName, "Digest", password)            Hash28: MD5(UPPER(NETBIOSDomainName\sAMAccountName), "DIGEST", password)</p>

Errata Published*	Description
	<p>Hash29: MD5(LOWER(NETBIOSDomainName\sAMAccountName), "digest", password)</p> <p>Changed to:</p> <p>Hash1: MD5(sAMAccountName, NETBIOSDomainName, password)  Hash2: MD5(LOWER(sAMAccountName), LOWER(NETBIOSDomainName), password)  Hash3: MD5(UPPER(sAMAccountName), UPPER(NETBIOSDomainName), password)  Hash4: MD5(sAMAccountName, UPPER(NETBIOSDomainName), password)  Hash5: MD5(sAMAccountName, LOWER(NETBIOSDomainName), password)  Hash6: MD5(UPPER(sAMAccountName), LOWER(NETBIOSDomainName), password)  Hash7: MD5(LOWER(sAMAccountName), UPPER(NETBIOSDomainName), password)  Hash8: MD5(sAMAccountName, DNSDomainName, password)  Hash9: MD5(LOWER(sAMAccountName), LOWER(DNSDomainName), password)  Hash10: MD5(UPPER(sAMAccountName), UPPER(DNSDomainName), password)  Hash11: MD5(sAMAccountName, UPPER(DNSDomainName), password)  Hash12: MD5(sAMAccountName, LOWER(DNSDomainName), password)  Hash13: MD5(UPPER(sAMAccountName), LOWER(DNSDomainName), password)  Hash14: MD5(LOWER(sAMAccountName), UPPER(DNSDomainName), password)  Hash15: MD5(userPrincipalName, password)  Hash16: MD5(LOWER(userPrincipalName), password)  Hash17: MD5(UPPER(userPrincipalName), password)  Hash18: MD5(NETBIOSDomainName\sAMAccountName, password)  Hash19: MD5(LOWER(NETBIOSDomainName\sAMAccountName), password)  Hash20: MD5(UPPER(NETBIOSDomainName\sAMAccountName), password)  Hash21: MD5(sAMAccountName, "Digest", password)  Hash22: MD5(LOWER(sAMAccountName), "Digest", password)  Hash23: MD5(UPPER(sAMAccountName), "Digest", password)  Hash24: MD5(userPrincipalName, "Digest", password)  Hash25: MD5(LOWER(userPrincipalName), "Digest", password)  Hash26: MD5(UPPER(userPrincipalName), "Digest", password)  Hash27: MD5(NETBIOSDomainName\sAMAccountName, "Digest", password)  Hash28: MD5(LOWER(NETBIOSDomainName\sAMAccountName), "Digest", password)  Hash29: MD5(UPPER(NETBIOSDomainName\sAMAccountName), "Digest", password)</p>
2017/06/26	<p>In Section 7 Appendix B, information has been added about which products implement which protocol roles.</p> <p>Changed from:</p> <p>Windows Client</p> <ul style="list-style-type: none"> <li>• Windows NT 3.1 operating system</li> <li>• Windows NT 3.5 operating system</li> <li>• Windows NT 3.51 operating system</li> <li>• Windows NT 4.0 operating system</li> <li>• Windows 2000 Professional operating system</li> <li>• Windows XP operating system</li> <li>• Windows Vista operating system</li> </ul>

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	<ul style="list-style-type: none"> <li>• Windows 7 operating system</li> <li>• Windows 8 operating system</li> <li>• Windows 8.1 operating system</li> <li>• Windows 10 operating system</li> </ul> <p>Windows Server</p> <ul style="list-style-type: none"> <li>• Windows NT 3.1</li> <li>• Windows NT 3.5</li> <li>• Windows NT 3.51</li> <li>• Windows NT 4.0</li> <li>• Windows 2000 Server operating system</li> <li>• Windows Server 2003 operating system</li> <li>• Windows Server 2008 operating system</li> <li>• Windows Server 2008 R2 operating system</li> <li>• Windows Server 2012 operating system</li> <li>• Windows Server 2012 R2 operating system</li> <li>• Windows Server 2016 operating system</li> </ul> <p>Changed to:</p> <table border="1" data-bbox="516 919 1414 1839"> <thead> <tr> <th data-bbox="516 919 818 972">Windows Client</th> <th data-bbox="818 919 1115 972">Client role</th> <th data-bbox="1115 919 1414 972">Server role</th> </tr> </thead> <tbody> <tr> <td data-bbox="516 972 818 1050">Windows NT 3.1 operating system</td> <td data-bbox="818 972 1115 1050">Yes</td> <td data-bbox="1115 972 1414 1050">Yes</td> </tr> <tr> <td data-bbox="516 1050 818 1127">Windows NT 3.5 operating system</td> <td data-bbox="818 1050 1115 1127">Yes</td> <td data-bbox="1115 1050 1414 1127">Yes</td> </tr> <tr> <td data-bbox="516 1127 818 1205">Windows NT 3.51 operating system</td> <td data-bbox="818 1127 1115 1205">Yes</td> <td data-bbox="1115 1127 1414 1205">Yes</td> </tr> <tr> <td data-bbox="516 1205 818 1283">Windows NT 4.0 operating system</td> <td data-bbox="818 1205 1115 1283">Yes</td> <td data-bbox="1115 1205 1414 1283">Yes</td> </tr> <tr> <td data-bbox="516 1283 818 1381">Windows 2000 Professional operating system</td> <td data-bbox="818 1283 1115 1381">Yes</td> <td data-bbox="1115 1283 1414 1381">Yes</td> </tr> <tr> <td data-bbox="516 1381 818 1459">Windows XP operating system</td> <td data-bbox="818 1381 1115 1459">Yes</td> <td data-bbox="1115 1381 1414 1459">Yes</td> </tr> <tr> <td data-bbox="516 1459 818 1537">Windows Vista operating system</td> <td data-bbox="818 1459 1115 1537">Yes</td> <td data-bbox="1115 1459 1414 1537">Yes</td> </tr> <tr> <td data-bbox="516 1537 818 1614">Windows 7 operating system</td> <td data-bbox="818 1537 1115 1614">Yes</td> <td data-bbox="1115 1537 1414 1614">Yes</td> </tr> <tr> <td data-bbox="516 1614 818 1692">Windows 8 operating system</td> <td data-bbox="818 1614 1115 1692">Yes</td> <td data-bbox="1115 1614 1414 1692">Yes</td> </tr> <tr> <td data-bbox="516 1692 818 1770">Windows 8.1 operating system</td> <td data-bbox="818 1692 1115 1770">Yes</td> <td data-bbox="1115 1692 1414 1770">Yes</td> </tr> <tr> <td data-bbox="516 1770 818 1839">Windows 10 operating system</td> <td data-bbox="818 1770 1115 1839">Yes</td> <td data-bbox="1115 1770 1414 1839">Yes</td> </tr> </tbody> </table>	Windows Client	Client role	Server role	Windows NT 3.1 operating system	Yes	Yes	Windows NT 3.5 operating system	Yes	Yes	Windows NT 3.51 operating system	Yes	Yes	Windows NT 4.0 operating system	Yes	Yes	Windows 2000 Professional operating system	Yes	Yes	Windows XP operating system	Yes	Yes	Windows Vista operating system	Yes	Yes	Windows 7 operating system	Yes	Yes	Windows 8 operating system	Yes	Yes	Windows 8.1 operating system	Yes	Yes	Windows 10 operating system	Yes	Yes
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Windows 10 operating system	Yes	Yes																																			

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	Windows Server	Client role	Server role
	Windows NT 3.1	Yes	Yes
	Windows NT 3.5	Yes	Yes
	Windows NT 3.51	Yes	Yes
	Windows NT 4.0	Yes	Yes
	Windows 2000 Server operating system	Yes	Yes
	Windows Server 2003 operating system	Yes	Yes
	Windows Server 2008 operating system	Yes	Yes
	Windows Server 2008 R2 operating system	Yes	Yes
	Windows Server 2012 operating system	Yes	Yes
	Windows Server 2012 R2 operating system	Yes	Yes
	Windows Server 2016 operating system	Yes	Yes

\*Date format: YYYY/MM/DD