C4 Softswitch Compact

Carrier-grade Class 4 softswitch for small to medium Next Generation Networks

Product overview
An entry level solution for small to medium NGN based networks; the TELES C4 Softswitch (C4 SSW) Compact is a cost optimized, hardware-based platform. The C4 SSW Compact consists of two commercial, off-the-shelf, rack mounted servers. The system is delivered in a highly available, redundant mode with hot standby configuration. Although the C4 SSW Compact is a small-scale solution, it also supports all C4 Softswitch features and comes with a full featured Element Management System (C4 EMS).

Multiprotocol support and advanced routing
The TELES C4 SSW Compact combines two capabilities and thereby maximizes both the number of supported network scenarios and the call completion rate. First, the C4 SSW Compact supports all major VoIP and PSTN protocols and includes any-to-any protocol interworking. Second, the C4 SSW Compact can analyze and determine routing based upon policies and sophisticated algorithms. To accomplish the second, it uses the intelligent, easy-to-configure call routing engine.

Proven interoperability
The TELES C4 SSW Compact has a proven track record of interoperability with all major VoIP and PSTN carriers and vendors. Interoperability plays a major role in a variety of NGN scenarios and contributes to seamless operation in multi-vendor and multi-carrier environments.

Comprehensive system management capabilities
The TELES C4 SSW Compact can be remotely managed, configured, and deployed using the included C4 EMS. With full FCAPS (Fault-, Configuration-, Accounting-, Performance-, and Security-Management) compliance, the C4 EMS offer enhanced operational capabilities and reduces the time and effort typically required to manage your Next Generation Network.

- Carrier-grade Class 4 Softswitch (SSW)
- Supports up to 2,000,000 Busy Hour Call Attempts (BHCA)
- Supports up to 20,000 concurrent calls
- Advanced programmable call routing policy engine
- Breakout Gateway Controller (BGC) for SIP-only calls
- Interconnection Border Controller (I-BC) controls Interconnection Border Gateways (I-BG) with H.248 (Megaco) for VoIP peering
- Media Gateway Controller (MGC) controls Trunking Media Gateways (T-MG) with MGCP or H.248 (Megaco) for PSTN peering
- MGC integrates with Signaling Gateways (SGW) through the SIGTRAN protocol family
- Any-to-any interworking between all major VoIP and PSTN signaling protocols
- Media Resource Controller (MRC) controls announcements and 2-stage dialing
- Integrated C4 EMS
C4 Softswitch Compact

CAPABILITIES

<table>
<thead>
<tr>
<th>Scalability</th>
<th>Max number E1: 2,000</th>
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<tbody>
<tr>
<td></td>
<td>Max. simultaneous calls: 20,000</td>
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<tr>
<td>Performance</td>
<td>Max. 2,000,000 BHCA</td>
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<tr>
<td>Redundancy</td>
<td>1+1 hot standby redundancy concept, with L2 geo-redundancy</td>
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<tr>
<td>Routing policies</td>
<td>Policy-based call routing (destination/originating party, peering partner, bearer service) Advanced, intelligent call routing (complex routing rules, multilevel routing function, Least Cost Routing, fully programmable routing flow by using regular expressions)</td>
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<tr>
<td>Routing APIs</td>
<td>RADIUS AAA support (RFC2865, RFC2866, RFC2869, Cisco Vendor Specific Attributes (VSAs), TELES VSAs) SIP redirect-server support IN number portability based on ITU-T INAP (CS-1) ENUM E.164 number mapping Interface to C4DS SQL database Routing API to wholesale trading billing systems</td>
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<tr>
<td>Billing APIs</td>
<td>CDR file interface to CDR Mediation Server for integration with offline billing systems CDR socket interface to online billing systems RADIUS AAA interface to prepaid billing systems</td>
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INTEROPERABILITY

<table>
<thead>
<tr>
<th>Media Gateways</th>
<th>Alcatel 7515 MG</th>
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<tbody>
<tr>
<td>AudioCodes</td>
<td>Mediant series</td>
</tr>
<tr>
<td>Cisco</td>
<td>AS5xxx Series</td>
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<tr>
<td>Newgrid</td>
<td>NMG 16/32/63</td>
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<tr>
<td>Nortel</td>
<td>MG3200</td>
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<tr>
<td>Nuera</td>
<td>GX-2K, GX-3K</td>
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<tr>
<td>TelcoBridges</td>
<td>TMG 800/3200/7800</td>
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<tr>
<td>TELES</td>
<td>Border-Gateway (NBE)</td>
</tr>
<tr>
<td>TELES Media Gateway</td>
<td>(IMGW)</td>
</tr>
<tr>
<td>Verso</td>
<td>BHG2500</td>
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PROTOCOLS

Gateway Control | MGCP, H.248 (Megaco) |
VoIP Signaling  | SIP, SIP-I/T |
|                | SIP-ISUP (SIP-I/T) inter working (ITU-T Q.1912.5-Profile C, RFC3372, RFC3398, RFC3204), H.323v4 |
Negotiation     | Silence Suppression and Echo Cancellation on a per call basis Fax/modem detection and transport (bypass, transparent or relay) |
PSTN SS7        | MTP3 (ITU-T Q.704) |
Signaling       | ISUP (ITU-T Q.761–Q.764 (V1 Blue Book, V2 White Book, V3)), Q.767 international interconnection ETSI (ETS 300 356-1: 92, 95, 98), 40 national ISUP variants ANSI S57 (T111.3-4, T113.3) |
PSTN ISDN        | EDS1 User Side: ITU-T (Q.931), ETSI (TBR4, ETS 300 125 +315) EDS1 Network Side: ITU-T (Q.931), ETSI (ETS 300 102+317) QSIG, ETSI (ETS 300 172) SESS, Telecordia TR41459 |
SIGTRAN         | SCTP (RFC2719, RFC2960, RFC3309) M2UA (RFC3331) M3UA (RFC4666) IUA (RFC4233) |

MAINTENANCE

Management       | C4 EMS GUI, CLI (serial+ssh) |
Monitoring/       | SNMPv2 standard + private MIBs |

HARDWARE

x64 Server       | Requires 19” rack server according to TELES specification |

Find out more: www.teles.com