ASTRO 25 VIRTUALIZED PRIME SITE

SOFTWARE-BASED, ON-PREMISE ARCHITECTURE FOR P25 SIMULCAST

In many areas, the high demand for channels means narrow-band radio frequencies are hard to obtain. The use of simulcast can allow you to efficiently reuse frequencies at adjacent sites, giving your radio users the channel capacity and wide-area coverage they depend on.

Simulcast operation relies on the ability to choose the best received signal from multiple sites and re-transmit without causing interference. The ASTRO® 25 Virtualized Prime Site is an on-premise configuration that compares real-time audio from multiple sites and aggregates the highest quality audio frames to pass on. It then synchronizes each transmitter to mitigate interference and ensure the best quality audio is received at the subscriber radio. Software virtualization enables one hardware unit to run multiple virtual machines, thereby creating a high-availability architecture in a small and easy to manage form factor.

NO SINGLE POINT OF FAILURE

The ASTRO 25 Virtualized Prime Site ships standard in fully redundant configurations. In the event of a hardware or software failure, the backup will take over to maintain full service and site capacity. Channel processes are level loaded across available hardware, thereby distributing the load and minimizing any disruptions caused during a switch. And to protect against the catastrophic loss of the entire prime site, a geographic redundant configuration is available.

SMALL FOOTPRINT

A key advantage that comes with virtualization is a reduction in physical size of the overall Prime Site. Combining multiple processes across just a couple components dramatically reduces the hardware requirements. All the equipment, including processing, networking and timing, for even the largest configuration fits in the space of a half rack.

EASY TO MAINTAIN

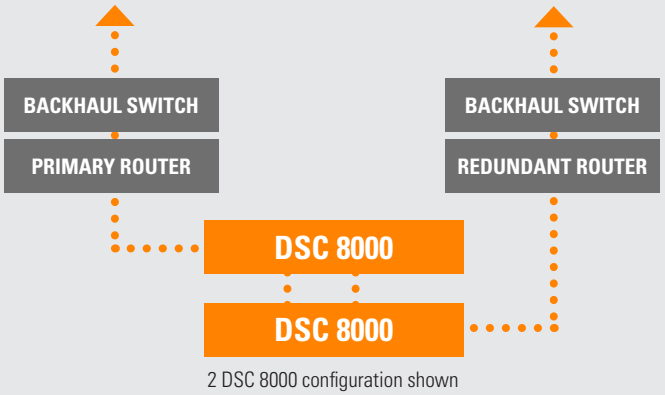
The Virtualized Prime Site is also easy to maintain. A single, secure login provides access to the configuration and diagnostics for all channels. Software updates are streamlined and can be performed without any reduction in service. And when it is time to add channels, software-only expansions means no hardware to ship, mount or cable.

DSC 8000 CONTROLLER

The DSC 8000 controllers perform site control and channel comparator functions. DSC 8000 controllers are deployed in either 1 pair or 2 pairs. Channel related processes are level loaded across all available DSC 8000s. In the event of a failure, all processes on the failed unit will immediately transfer to the remaining available unit(s).

NETWORKING & TIMING EQUIPMENT

The Virtualized Prime Site comes with the necessary networking equipment to connect to the radio sites and other systems. Timing options include GPS with rubidium extended holdover or an external reference. For redundancy purposes, this equipment is deployed in pairs.



2 DSC 8000 configuration shown

GENERAL SPECIFICATIONS

	2 DSC 8000 CONFIGURATION	4 DSC 8000 CONFIGURATION
System Types Supported	Trunking	Trunking
Channels Supported	1-18 channels	1-30 channels
Subsites Supported	1-32 sites	1-32 sites

TECHNICAL SPECIFICATIONS

	2 DSC 8000 CONFIGURATION	4 DSC 8000 CONFIGURATION
Dimensions (H x W x D)	84.2 x 20.5 x 24.4 in (2138 x 521 x 619 mm)	84.2 x 20.5 x 24.4 in (2138 x 521 x 619 mm)
Weight	227 lbs (103 kg) est.	260 lbs (118 kg) est.
Rack Power Supply Input (qty=2)[1]	AC: 90-264 VAC / 47-63 Hz DC: 41.5-60 VDC	AC: 90-264 VAC / 47-63 Hz DC: 41.5-60 VDC
Backhaul Switch Inputs (qty=2)[2]	AC: 100-127 / 200-240 V, 50/60 Hz	AC: 100-127 / 200-240 V, 50/60 Hz
Typical Power Consumption[2] (configuration includes, DSC 8000s, 2 routers and 2 switches)	AC: 430 W DC: 250 W	AC: 500 W DC: 300 W
Operating Temperature Range	32° to 104° F (0° to 40° C)	
Non-Operating Temperature Range	-4° to 158° F (-20° to 70° C)	
Relative Humidity	15% to 90%, non-condensing	
Time Stability	Redundant GPS antennas with rubidium extended holdover or external reference	

1. The backhaul switches are not powered by the rack power supply and require their own AC inputs.
2. DC power consumption values do not include the backhaul switches.

MOTOROLA SOLUTIONS

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